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Original Articles.

CHLORALOSE.*

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In 1896 I published[1] a "Clinical Note on the Action Chloralose," referring to the sources of my informa- on about it and detailing some clinical experiences. referred to Dr. George William Balfour's favorable lusion to it in his book on the "Senile Heart," and an unknown author who said of it: "Chloralose has l the advantages of chloral without its disadvantages." nother writer especially commended it in the treat- ient of insomnia of the insane. I also mentioned that ; was so named by Richet and Hanriot, of Paris, and is id to be a combination of chloral and glucose—technic- y anhydro-gluco-chloral, chemically $C_8H_{11}Cl_3O_6$. It described technically as a "hypnotic yet excitant of the inal cord." Virgil Coblentz, in his "Newer Remedies," ys it forms fine colorless needles, which melt at 180 to 86 C.—363.2 to 366.8 F.—soluble in 170 parts of cold ater, readily so in alcohol. I have felt that the com- unication scarcely received the attention which the mportance of the subject demanded, and I take ad- antage of the opportunity to bring it before the Sec- ion on Materia Medica, Pharmacy and Therapeutics, n the following short paper, in which I repeat much t I published before, but also add some additional ervations, hoping thus to secure wider publication.

REPORT OF CASES.

ASE 1.—This was one of most obstinate insomnia, for ch I had ineffectually used sulphonal, chloralamid, nal, and paraldehyde. I ordered for him 10 grains hlo alose at bedtime. The effect seemed magical. went promptly to sleep and slept soundly until ing, awakening much refreshed, and without any the unpleasant feeling so often consequent on reme- es of this class. The dose was repeated the next night nd the next with like effect. On the morning of the urth day the patient informed me that he had gone rough some strange performance during the night; he had unconsciously removed all his clothing and nd himself stark naked in the morning. This expe- ice did not impress us seriously, and the drug was ated the following night. During the night, his , who occupied an adjacent room, happened to r his apartment and found him sitting on the edge e bed, again entirely unclothed. She succeeded in ing him into bed, apparently without arousing him, he awoke in the morning thoroughly ignorant of had happened during the night.

CASE 2.—A hale and hearty medical gentleman of 80 years, but a confirmed insomniac, had tried every known remedy for sleeplessness, except morphin, and whenever a new one arose, his friends were apt to call his attention to it. Thus he learned of chloralose. It was recommended to him in 5-grain doses to be taken in a cachet. He had taken it two nights in succession with the most charming effect, and was delighted with it. The day preceding the next night was stormy, and he was not able to take his usual exercise out of doors. In the evening he ate rather too much of some favorite food, and hence had a little indigestion. At bedtime he took his 5-grain cachet of chloralose, but it produced no effect. Twelve o'clock came, but no sleep. He then took half of another cachet, which was also without effect. In a couple of hours he took the remaining half of the cachet. In the morning his wife found him asleep, breathing stertorously, and could not arouse him. She became alarmed and wired for her son. A little later he awoke, feeling very well and thoroughly unconscious of anything unnatural. His wife thought it best, however, to keep him in bed until we arrived, when we found him in his usual health and entirely unaware that anything unusual had occurred.

CASE 3.—This was that of another physician suffering with stubborn insomnia. Nothing but morphin could make him sleep. It was just after I had the first ppy experience with the drug that this occurred, and I advised chloralose in 10-grain doses, recommending it confidently. It was some days before I heard from him, when early one morning in June, the physician's son called me up and begged me to come at once, saying that the medicine I had given his father had not agreed with him. On the way I learned that a dose of 10 grains of chloralose had been taken, and as there was no effect, the doctor, on his own responsibility, repeated the dose at the end of an hour. I had not advised a second dose. In a short time he fell asleep, and a little later began to be restless, and, still later, unmanageably violent. The family physician was called and it required all his strength to keep his friend and patient in bed. The struggle lasted from soon after midnight until I was sent for at daylight. During this time the patient had evacuated his bowels and bladder involuntarily. By the time I arrived he had fallen into a quiet sleep from which he was easily aroused. He recognized me at once, spoke intelligently and wondered why I had been sent for.

These cases were published in my first paper. To them I now add the following:

CASE 4.—I was asked by my friend, Dr. Githens, to see with him Master K., aged 9, who, succeeding an attack of influenza, had fallen into a state of great nervousness, which, perhaps, may be truly called actively choreic, that is, almost every voluntary muscle of the body appeared to be in motion—his hands, his legs, his head and neck were in constant motion. He would turn

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Read by title in the Section of Materia Medica, Pharmacy and peutics, at the Fifty-first Annual Meeting of the American al Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] versity Med. Mag., Dec., 1896.

from one side to another, rest there a few seconds, then turn on his face, and then around to his back, then on his face again, then would draw up his legs, extend them again, and so on without cessation. It had commenced twenty-four hours earlier, and though interrupted during a couple of hours of sleep, as soon as he awoke the motion again set in. All the simpler anodynes, except morphin, had been employed without effect. I advised 2 grains of choralose every hour. The very first dose quieted him, or at least diminished decidedly the activity of the movements. Three more doses were given, by which time he became perfectly quiet, went off to sleep and awoke completely recovered.

Case 5.—R. W. was completely unnerved by the death of his wife, after a long and trying illness. Sleep was an impossibility, and the ordinary remedies were ineffectual. Five-grain doses of choralose were ordered, and one at night at bedtime produced a quieting effect.

Case 6.—F. G., aged 40, was suffering from phthisis attended by a peculiar clonic and tonic spasm. He slept very little on account of the spasms, which were excited by the slightest touch. No hypnotic had any effect. Five-grain doses of chloralose were used, the effect lasting from fifteen to sixteen hours, and making him drowsy for several days.

Case 7.—D. S., aged 49, was neurasthenic, with cardiac and gastric symptoms. Sleeplessness was very marked. Trional and sulphonal were of little use. Bromids and chloralose were good. He slept soundly after taking the latter, but often dreamed and started up suddenly in his sleep after taking the former.

Case 8.—F. H. was a surgical patient, and a poor sleeper. Five grains of chloralose were given, and followed by delirium, violent spasms, pallor, cold clammy sweat, and an intermittent, weak pulse, while the temperature fell 1 degree. He had several attacks during the night, but slept soundly afterward. He remembered bad dreams, but nothing else. This was the only case in which the symptoms assumed at all an alarming character, and, as the report was made only by nurses and anxious relatives, it must be taken *cum grano salis.* The ultimate effect was sound sleep, and there were no unpleasant after-effects.

Case 9.—This case was that of a patient admitted to the hospital of the University of Pennsylvania, for the morphin habit. The morphin had been gradually reduced and finally withdrawn. Insomnia remained, however, a prominent symptom. Five grains were administered the first night, without effect. On the second night, 5 grains were given and, being without effect, 5 grains additional at the end of two hours. The patient then fell asleep, and had a comfortable night. The next night the same course was pursued, with less satisfactory results, though the patient slept some. For some reason no further trial was made in this case.

CONCLUSIONS.

The conclusions which I think are justified from the above cases are the following: 1. Chloralose is a prompt and safe hypnotic, more prompt in its action than any drug except morphin. 2. From a large experience with chloralose, I am satisfied that it is more prompt in its action than chloral and efficient in much smaller doses than the latter drug. 3. Its effects occasionally include involuntary actions, which, while surprising and even fantastic in some of their exhibitions, are, nevertheless, harmless. 4. The drug needs to be further studied. 5. The maximum dose is 5 grains in a capsule, which may have to be repeated in not less than an hour; it should be tried also in smaller doses, because it is reasonable to believe that the unfavorable effects may be thus averted while the hypnotic action may be continued.

POST-OPERATIVE NERVOUS PHENOMENA OR ARTIFICIAL MENOPAUSE.*

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The general practitioner has a world of patience with the nervous phenomena incident to the normal menopause, but little or none with the nervous phenomena of a precipitated menopause or that following the removal of the uterus or appendages at an early age. They have all patience with the hot and cold sensations, spinal and cerebral disturbances, local and general troubles so common at both normal and precipitated menopause. If the patients are active and pay but little attention to the uncomfortable sensations associated with the normal change, but little is done or advised.

If the change is stormy, patients are commonly freely medicated, often favoring the drug habit—acute and chronic inebriety—and more patients are lodged temporarily or permanently in asylums or rest-cures for the management of the normal menopause phenomena, than that from an artificial menopause.

Physicians commonly encourage their patients to persevere with treatment, saying that they have a long period of comfort and fine health before them when the change is well established.

Healthy environs, a strictly physiological life, favored by a non-stimulating and nutritious diet—avoidance of condiments—and an active out-of-door life, free from emotional disturbances, favor the best results.

The complaint is made by the general practitioners, that patients are returned to them after operation for the removal of bilateral tubal and ovarian disease or the extirpation of a diseased uterus, with peculiar nervous disturbances, are difficult to manage, and quite commonly carry on a correspondence with the operator about certain phenomena that do not disturb him in a normal menopause.

Unfortunately, but few of these patients are kept under treatment sufficiently long for permanent results after the operation. The operations are urged by all interested because the patients are acutely or chronically ill—suffering, anemic, and emaciated—many of them have lost thirty or forty pounds, locomotion is distressing or impossible, and relief from the operation is commonly rapid and pleasing. If every care is exercised in choice of diet, systematic rest and massage, they commonly recover the loss in a few months. The digestion improves, renal and vesical disturbances vanish, and alarming mental disturbances subside.

Unfortunately, these sufferers are systematically treated only for a period of three or four weeks, then they are hurriedly returned, sometimes to their uncomfortable homes, where everything is unfavorable to a favorable convalescence. Many operators favor an early rising and an early discharge, and boast of sending their patients home in two or three weeks. The practice favors post-operative sequelæ and a tedious convalescence.. By so doing they lose the opportunity of demonstrating what the rest-cure or treatment will do for a class of patients that need it most. Married women are expected, by their husbands and friends, to return to their homes and resume domestic duties; rarely are they sent to health resorts.

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Nothing has been more pleasing in my own work than the general improvement of feeble and emaciated patients after complicated sections: they eat and sleep well, are bright and cheerful, all their uncomfortable symptoms vanish, they recover flesh and color rapidly, and are always grateful for the systematic rest and rubbing they receive.

Every nurse is taught massage by a professional teacher, and practices it throughout her stay in the hospital. Every charity patient receives precisely the same care. Systematic rubbing and massage, and the diet-kitchens and training of hospitals have done much to rapidly advance the professional nurse—as yet the diet-kitchen in hospitals is not the special department it should be. Sick people commonly need something better in the shape of a cook than they have in their own kitchens. It is natural that we should look for it in our nurses. If the same care were taken in the preparation of the diet in hospitals, that is required in the preparation for the operations and all dressings, results would all improve. Many of the trays you see passed about the hospitals should go directly to a swinery. Many of the supervising nurses and matrons know little about diet, and some do not know the simple ingredients of a loaf of bread.

In my specialty for speedy, good results, I would urge prolonged rest-treatment after serious operations. I am satisfied that thrice better results can be obtained by turning the patient over, three or four days after the operation, to a good clinician—one who is interested in diet and systematic rest-treatment.

The time and opportunity is commonly lost for the correction of many disturbances amenable to early therapeutics. This Section should correct greatly the common, careless practices of specialists and the medical and surgical departments of hospitals and nurses' schools.

At the normal menopause sufferers commonly feel that the phenomenon is naturally a part of their experience, and accept all sorts of counsel, neglecting serious troubles until it is too late for good results, or they are overtreated or overmedicated into distressing drug habits. In the premature menopause the clinician is annoyed that the phenomenon should occur—he demands freedom from everything, and cures.

SYPHILIS AS A NON-VENEREAL DISEASE.

WITH A PLEA FOR THE LEGAL CONTROL OF SYPHILIS.*

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Syphilis is a great disease, which has ravished the world for centuries, and has counted its victims by tens and hundreds of thousands. It is a contagious disease, always communicated from one individual to another by direct or indirect means—or transmitted through inheritance—and yet, to-day, there is scarcely any restraint placed upon its continued spread by individual propagation, over the whole world.

Advancing civilization has recognized one after another of the contagious or infectious maladies which afflict mankind, and the arm of the law has come in to protect the defenseless, and we no longer have the wholesale sweep of epidemics which occurred before health boards were organized and given control of these matters. This is often accomplished at the sacrifice of the comfort and, it would often seem, the rights of individuals; but the principle of the "greatest good for the greatest number" prevails, and those who unhappily may become afflicted with any of the maladies coming under the jurisdiction of the health boards are often obliged to sacrifice all personal interest for the benefit of those around them.

Why is it that syphilis, which has always been recognized as an intensely contagious disease, in certain of its stages and manifestations, has, to such a great extent, been allowed to pursue its unbridled course, attacking alike the innocent, as well as those guilty of sexual transgression? Why is it that thousands, yes hundreds of thousands of innocent and trusting wives, and helpless and blameless children have had to suffer for the sins of others? Why is it that syphilis has thus been allowed to spread its ravages unchecked by the hand of advancing science and broad philanthropy?

I need not answer these questions, for I am convinced that all of my hearers know full well the reason. But, thanks to the light of accumulated knowledge and experience, the shame which has too often checked discussions of the subject, and hampered the efforts of many who, from time to time, in various countries, have tried to stem the tide of this disease, need no longer have an influence. I hope to give you facts and show you reasons which will make every one present feel and know that the disease (syphilis) should and must now have a check put upon its ravages—and my plea will rest, as the title of my paper indicates, upon the vast "army of innocents" who plead for protection from a disease which may attack them when least expected, and may often extend its malign effects through years, and even to succeeding generations.

It is not a little interesting to note that when the disease burst out with such frightful severity in the years 1494 and 1495, at a date closely following the discovery of America, and about the time of the invasion of Italy by Charles VIII of France, it was not by any means considered as a venereal affection, but spread so greatly among families and in neighborhoods that it was regarded as a form of plague; many laws were therefore enacted for the protection of the community against what was considered as a new disease which had appeared among them. Also later, even in the sixteenth and seventeenth centuries, we find laws regarding those afflicted with syphilis, prohibiting them from the use of public baths, and even preventing them from coming into general assemblies, etc., and some of the measures taken to hinder the spread of the disease were harsh in the extreme.

I will not attempt, in any way, to go into the legal aspect of the case, either historically or practically, for time and space would fail me on an occasion like this; legal action will follow when once the public is convinced that there is a danger which can be thus avoided.

Mention was made of legal restrictions of the disease exercised long ago, in order to call attention to the fact that when syphilis was regarded as a general malady, not necessarily connected with the sexual act, there was great attention paid to its control; but now, in later years, since it has been regarded more and more as a venereal disease, it has been ignored and left to pursue its destructive way unchecked by sanitary control. The height of the folly culminated in the silly agitation in England which terminated in 1881, with the repeal of the "Contagious Diseases Acts," which had wrought such beneficent results from 1864 till 1881, as English doctors at that time testified, and as every medical man knows.

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As already intimated, the pendulum of knowledge has swung the other way, and during the last twenty-five years or so, a mass of facts has been steadily accumulating, which again calls attention to the aspect of the innocent infection by syphilis, and which demands that the thoughts of those who make laws for the protection of the public shall be again turned to the disease. The data referring to this "Syphilis in the Innocent," the present writer has been collecting for the past ten years, and has recently embodied in a volume,[1] to which further reference will be made in our discussion of the subject.

The basis of our present argument is as follows: as long as syphilis is regarded exclusively as a venereal disease, it is and will be extremely difficult to obtain adequate legislation for its control; whereas, if it can be shown to be one from which the general and innocent public should be protected, there will be little difficulty in meeting and solving the question; it is the hope of the writer that the present paper, with the discussion which may follow, will be the means of such agitation as will result in the ultimate adoption of laws which will in a measure control syphilis in this country.

In order, therefore, to properly understand and appreciate the task before us, it will be necessary to enter into some details in regard to the present extent of syphilis, its modes of propagation in times past, including many episodes which were called epidemics, on account of the large numbers innocently affected in a brief period, and finally to the modes of propagation of the disease in late years, by other than unlawful venereal acts. These matters I will endeavor to present as concisely as possible.

WORLD-WIDE DISTRIBUTION OF SYPHILIS.

A word first in regard to the general distribution of syphilis in the world.

Many have written from time to time as to the antiquity of syphilis as a disease, even from the most ancient times, and bones exhumed here and there have seemed to show that it has prevailed for ages, as also records in Chinese literature point back to its existence at least 2000 years B. C. But for practical purposes most studies of syphilis go back only four hundred years to the period mentioned, 1494 and 1495, and as all know, it was charged that the followers of Columbus brought the disease to Europe from the western lands. Since 1494, the disease has spread, apparently *de novo*, until now, according to the best writers, there is hardly a portion of the inhabited globe where it does not exist with more or less virulence. It is stated that in Russia at least one-quarter of the inhabitants in some villages are infected, and all writers agree that there it is mostly spread in an innocent manner, mainly in family life, as will be mentioned later, for prostitution is almost unknown in the villages.

In Great Britain and Ireland it prevails widely in the great cities and ports, favored by the neglect of all restrictions on prostitution. Dr. Holland in 1854 estimated that in the United Kingdom there were at least a million and a half persons infected with syphilis each year.

Japan and China are so full of it that Dr. Eldridge states that it is very exceptional to meet a male Japanese who will not acknowledge that at some time he has had syphilis, and in the French Hospital at Tien-Tsin, China, almost 30 per cent. of all cases were of this disease.

Time fails even to touch on its prevalence in various other countries, but as stated before, syphilis exists almost universally, and, according to the best authorities it is steadily on the increase.

There are no data to determine the extent of its prevalence in the United States, but any one familiar with dispensary and hospital work here will vouch for the very great amount of it seen in daily life. The statistics collected by the American Dermatological Association, relating to some 300,000 cases of skin disease, give a percentage of 11.5 due to syphilis. Some years ago Dr. Sturgis collected the returns from the public institutions in New York City, and estimated that the numbers newly infected there with syphilis could not be far from 50,000 each year.

In the earlier history of medicine, in the sixteenth century, and later, there occurred, as already alluded to, such sudden spreadings of syphilis on certain occasions that the name epidemic has been rightly given to them. The earliest of these epidemics of which we have a good account occurred in the town of Brunn, in Moravia, where there were 180 directly infected in the town and others in outlying districts. The infection took place by means of cupping and blood letting as practiced by the public town barber, and no mention is made of its conveyance by venereal acts. These epidemics of syphilis I tabulated, from literature, collecting 110 of them, with a total number of considerably over three thousand victims. This is quite exclusive of those episodes where it is stated that there were "a large number infected." Included among the causes as a means of conveyance of the poison in these sad occurrences may be mentioned nursing, hand raising of infants, domestic transmission by household utensils, kissing, breast-drawing, accouchement, also by cupping, blood-letting, circumcision, vaccination, tatooing, glass-blowing, the application of the tongue to the eye to remove foreign bodies, catheterizing the Eustachian tube, etc.; and even as late as 1892 no less than twenty-seven cases of infection of this nature were reported by one physician, and, in Paris, in 1870, there were over seventy reported where the poison was conveyed to the Eustachian tube accidentally by one practitioner, in the treatment of diseases of the ear—this resulted from gross carelessness on the part of the physician.

Time would fail me even to hint at the mass of material which has been brought to light in regard to the modes and methods by which syphilis has been innocently given to individuals, even up to the present time, and often in spite of great care being exercised.

The three great classes or divisions of the subject to which I wish briefly to call your attention are: 1, marital syphilis; 2, hereditary syphilis; 3, extragenital, innocent syphilis.

MARITAL SYPHILIS.

The subject of marital syphilis has been very fully discussed by a number of writers, and all acquainted with the subject know well that this mode of infection stands prominent in connection with the innocent acquiring of the disease. While men occasionally contract syphilis innocently in lawful wedlock, even indeed from wives who have acquired it in nursing a syphilitic child, or in some other innocent manner, it is principally the wives who suffer, from the sins of their husbands, before or after marriage, and on them falls a large share of the burden of "innocent syphilis."

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[1] Bulkley: Syphilis in the Innocent (syphilis insontium) Clinically and Historically Considered, with a Plan for the Legal Control of the Disease. New York: Bailey & Fairchild. 1894.

Fournier, of Paris, recently made some studies from the cases of syphilis coming to him in private practice. He found that fully 25 per cent. of all females whom he had seen in private practice had contracted the disease innocently and undeservedly, and in the discussion of his paper, Ricord thought that that proportion was too low. Of the married females in Fournier's practice, he found that in 75 per cent. of the cases the disease was unmistakably traced to the husband.

In my own private practice I found that in fully 50 per cent. of the females, the disease was acquired in a perfectly innocent manner, while among the married females the percentage of innocent infections would be 85 per cent., or more.

Surely, then, there is reason in the plea that something should be done to prevent the wholesale infection of these innocent victims of marital syphilis. But if this aspect of the subject is dark, that of hereditary syphilis is yet darker, and calls even more strongly for relief.

HEREDITARY SYPHILIS.

The literature of hereditary syphilis is very large and the facts related to it are well known to the profession. Time and space will allow of but the briefest mention. We may for a moment first refer to the effect of the poison upon the viability of children born of syphilitic parents. I can not do better than to refer to some very striking tables given by Sturgis in an appendix to Diday's work on infantile syphilis. They are from the records of births of syphilitic children at the Moscow Hospital, Russia, from 1860 till 1870. During these years there were 2002 such births, and 1425 deaths; that is, 71 per cent. of the children born there of syphilitic parents died. Other writers are in accord as to the very great death-rate among those born of syphilitic parents.

It is to be remembered also that syphilis is the cause of innumerable abortions, and also produces sterility, both in the male and female. If, therefore, the effects of syphilis were limited solely to destruction of life in the new-born, or in the products of conception, there would be a strong reason for the introduction of measures to check the spread of the disease, from its loss of life to the state. But this is only a portion of the ills wrought by syphilis in connection with generation, and it would be better that children of syphilitic parents should thus fail of life, rather than be born with an inheritance which often proves such a curse.

Tarnowsky has recently given us some interesting facts which could easily be more or less paralleled from others. In three families, born of syphilitic parents, there was a total of 22 births; of these there came only *one* healthy adult person. Of 13 who survived some years, 8 were incapable of self-support, from mental or physical defects, and the other 5 were weak, nervous and totally unfit for further procreation. He states that the families in which this occurred belonged to the intelligent class of society, with no other cause than syphilis for these disastrous results. He quotes further, from Tschistiakow, the case of a man who had severe syphilis in early life, destroying the palate, of whose 9 children, 2 were idiots, 1 was deaf and dumb, and 1 died in infancy. The works of Hutchinson and many others give abundant testimony as to the direful effects of syphilis on the progeny of those thus affected.

Thus the army of innocents swells in size, and pleads for the restriction of a disease, which it is now believed, may sometimes be inherited even to the third generation. What the later effects of syphilis may be in producing some of the conditions commonly known as scrofula, and in inducing race-degeneration, can not now be answered positively. We know, however, that it has at times decimated our American Indian tribes, and has wrought unspeakable havoc in Russia, in the Hawaiian Islands, and elsewhere.

EXTRAGENITAL SYPHILIS.

The third division of our subject, namely, extragenital infection, or syphilis acquired quite apart from any sexual relations, is one of the most interesting lines of investigation possible, and has been illustrated by thousands of recorded cases, reported by many hundreds of observers. I may remark that nearly 200 cases of this kind have fallen under my own personal observation and care.

Time and space again forbid our more than lightly touching upon a few of the outside facts relating to this branch of our subject, but a slight classification of the facts may help us to a better understanding of the vastness of the subject, and its very, or most, important bearings upon the health of the community, and the dangers from syphilis.

ACQUIREMENT OF SYPHILIS.

The cases referring to the different methods of acquiring syphilis accidentally, apart from sexual life, as actually observed at the present time by every one who has opportunities and experience in this line, may be grouped under three main catalogues: 1. Those relating to domestic and industrial life. 2. Those relating to the nourishment and care of children. 3. Those relating to professional pursuits in the care of the sick.

Under the first class we find the instances of transmission finally classified into almost fifty groups, relating to the most different phases and aspects of domestic and social life. Not only has syphilis actually been given by spoons, knives, forks, cups, glasses and jugs, but it also has been communicated by tobacco pipes, cigars, cigarettes and even by troches or candy passed from mouth to mouth; also by shirts, drawers, masks, plasters, bandages, lint, towels, sponges, combs, tooth-brushes, syringes, sick-chairs, etc. Among those who have acquired it in industrial life, that is, innocently in connection with their occupation, we may mention glass-blowers, assayers, weavers, musicians, conductors (by whistles), servants, cooks, furriers, upholsterers, shoemakers, and others.

The second class, representing syphilis acquired through the nutrition or care of children, includes literally thousands of cases where the disease has been innocently acquired by suckling syphilitic children at the breast, and innumerable cases where the nurses and attendants have acquired it by contact with the syphilitic secretions of infants and where diseased children have communicated the disease to each other.

In the third class, relating to professional body service, in connection with the care of the sick, we find three divisions: 1, where the operator is the victim; 2, where the operator is the syphilifer, or gives it from himself to a patient; and 3, where the operator is the medium of conveying the disease from one patient to another.

Under the first class we find hundreds of cases where physicians, surgeons, and midwives have become infected in the practice of their calling. Large numbers of cases are on record where breast-drawers and wound-suckers have acquired the disease.

In the second class we find many records of those who have had syphilis giving the disease to others by body service, as in breast-drawing, tatooing, circumcision, vaccination, etc.

In the third class the operator acts as a medium, conveying the poison from one patient to another. Here we find a sad array of cases of infection by skin-grafting, vaccination, through dental instruments, by wet-cupping, tatooing, the use of the Eustachian catheter, etc.

LEGAL CONTROL OF SYPHILIS.

I have thus hurriedly, and necessarily very briefly, run over a few of the points relating to our subject, illustrating the propriety of my "plea for the legal control of syphilis based on its frequency in the innocent"—the details necessary to a full understanding of it would take many, many pages and occupy as many hours. I beg now to present a brief argument for and a statement of the method and mode of the legal control of syphilis which I think is feasible at the present time.

From what has preceded it is readily understood that syphilis is a disease which inflicts great injury upon the public health; *for it imperils not only those who have* been guilty of sexual transgressions, but also those who are quite innocent, and it is upon the basis of protection for the latter that I believe legal action should be taken.

While syphilis occurs most frequently as a "venereal disease," its prophylaxis or legal restraint by no means relates to the restriction of venereal diseases; the limitation of the spread of syphilis should be considered from a much broader and higher standpoint, namely, from that of defending the public health and that of individuals against a malady which affects the innocent and guilty alike, and which comes to the innocent not only when its dangers are anticipated, but also when they are least suspected.

In the matter of legal protection against syphilis, therefore, the subject of prostitution becomes a secondary consideration. The question is not one of "regulating prostitution," or of inspecting, licensing, or legalizing the "social evil," or of protecting those engaged in it. We approach it from a higher ground, and seek to have some restriction put on a disease which is dangerous and communicable, and which might at any time attack any one in a wholly innocent and unexpected manner. That the spread of syphilis can be checked is self-evident, as has been conclusively proved by the fact that all the epidemics to which reference has been made were averted when the cause was recognized and sufficient measures introduced to prevent the further transference of the poison from one person to another. It is also abundantly shown in certain instances where foreign governments have in some places enforced stringent measures looking in this direction.

We know positively that the poison does not and can not develop *de novo*, but that it is always communicated from one individual to another. We know also that within a certain period syphilis ceases to be contagious in each individual; so that if no new infection is introduced into a community, and the members of that community are guarded against acquiring the disease from one already infected until that safe period is reached, the malady will cease to exist.

Such precautions are exercised both by the public and by individuals against other contagious diseases, such as smallpox, scarlatina, measles, diphtheria, yellow fever, etc.; is it not eminently proper that syphilis should be placed in the same category, and protection should be afforded to the *innocent against it?* Syphilis counts its victims, guilty and innocent, by thousands where other diseases count hundreds. More deaths are ultimately caused by syphilis than by smallpox, while the injury to health, and interference with life work is infinitely greater in the former than in the latter. The conclusion is absolute: syphilis should be placed, like other contagious diseases, under the control of the health authorities.

In this country, as far as known, there have never been any sanitary safeguards against the spread of syphilis, and there are very few hospital advantages for those thus affected. In most cities in Europe, there are large accommodations for this class of patients, amounting in Paris to between one and two thousand beds. New York has but a relatively small service at the City Hospital, while the vast majority of syphilitic patients are treated at the dispensaries, and are allowed to go about, often in an extremely contagious condition. It would be difficult to convey an idea of the carelessness and indifference of some of these patients when informed of the dangers to others from their disease. Many, *indeed, by far the larger share of them, disappear from* treatment long before their syphilis is cured; and generally, even while they are in the contagious stage of their disease.

The republican ideas of this country would probably not endorse or submit to such sanitary police inspection and restraint as is exercised in many places in Europe; but the question naturally arises: Is there not some way in which the end can be reached of arresting the spread of this dangerous disease? Can there be no safeguards thrown out which shall prevent its extension here as it has spread in certain countries in Europe, such as Russia, where whole communities have been syphilized, and Portugal and Japan, where the disease is well-nigh universal?

The first step toward accomplishing the legal control of syphilis would undoubtedly be found in placing it among other contagious diseases which come under the jurisdiction of the health officers; indeed, the wonder is that it has not been so placed long ago.

If syphilis were first recognized as one of the great contagious diseases, against which it is the duty of the government to protect the community, the details of that protection would follow with time, as they have in regard to other contagious diseases; as the public became aware of the dangers arising from syphilis, and the benefits accruing from its restriction, there would be no difficulty in securing proper laws relating to the subject.

The suggestion, therefore, is most earnestly put forward that the time has certainly come when the dangers of syphilis, and especially the dangers to innocent persons should be fully and fairly recognized and met. It is too late in the history of science and of humanity to stigmatize the disease as "venereal," and on that account to withhold scientific protection from thousands of innocent sufferers. Among babies, nursing women, persons infected in dental and surgical operations, and in dozens of other innocent manners, syphilis can no more be described as venereal than can any other contagious disease. The time has come to place it under the control of the proper health officers, and to make it quite as *criminal to transmit syphilis wittingly,* as it is to communicate smallpox, scarlatina or diphtheria. It is believed that if only syphilis can be included on the list of contagious diseases which the health boards can control, proper legislation will follow slowly as the profession and public become more enlightened as to the real nature of syphilis and the real danger of the public from it.

4 East Thirty-seventh Street.

DISCUSSION.

DR. C. W. ALLEN, New York City—The subject is of deep interest and I have been very much gratified in listening to the presentation of this paper with its interesting statistics. Dr. Bulkley and I took part in a discussion almost ten years ago, before the Academy (New York). At that time I made certain suggestions, one of which was that we should begin by treating syphilis as a nonvenereal disease—not treating it medically in that sense, I mean, but in our discussions, in our writings; dropping the sexual view of it and treating it more so the public could come to learn what an important condition it presents as a family disease. I also advocated at that time, as one of the measures which might be carried out until others could be introduced, a certain authority to be exercized over those who sought admission to the public hospitals, having the disease in its contagious stage. Some authority should be vested in the institutions so that they could retain such cases until they are no longer sources of danger to the community at large. In a very large dispensary practice, where there are many foreigners recently arrived in this country and a great many Russians, I see so much of the family aspect of syphilis, the non-sexual kind, that I think I am safe in saying that two-thirds, and possibly more, of the cases I see have no immediate relation to the sexual act. I am continually seeing children, not only one, but two and as many as three in a family, all suffering from early syphilis, and I am unable to trace it to any source. The mother who comes with the children is healthy as far as examination goes; the father, I am usually unable to see, but as far as his history goes he is healthy and has been so. One of the last cases I saw before I came here was an instance of most aggravated chancre of the lower eyelid, producing a tumor the size of a walnut. It was a hideous looking affair, almost closing the eye, and I could get no history of how it was acquired. I see young men with chancres in various locations, not only upon the lips but in several instances upon other portions of the face—not bites from women but acquired in fights with men. Many of the suggestions I have previously made relating to the dissemination of a proper knowledge of the subject can be carried out if we go about it in the right way. Since this discussion in the New York Academy, ten years ago, I have endeavored, in a modest way, to carry out this view, and have recently written an article which was published in the *Medical Record*, in which is cited a large number of extragenital chancres, and nothing of a sexual nature is touched upon, so that article could be read by any one. We should all write this kind of papers to give the public and the profession at large, and the family physicians, the non-sexual aspect of lues so as to lead them to think of it as something more than a venereal disease. The speaker then referred to a case of chancre of the finger in a midwife, acquired in pinning a diaper upon a woman after delivery. She had washed her hands in carbolic acid at once, but in spite of this the chancre appeared. He also spoke of a large number of infecting sores in medical men, acquired in the pursuit of their calling.

DR. W. T. CORLETT, Cleveland, Ohio—I am in thorough accord with the ideas of the speaker, and think it an extremely important subject. The main difficulty which we have to encounter in doing anything to regulate the disease is the association with venereal disease. In common with Dr. Allen and others, I can testify that it is not uncommon to see children and innocent women presenting themselves with various forms of syphilis. Among those whose duties call them in contact with the disease it is not infrequently met with. In the last twenty years I have seen numerous cases acquired innocently. I have now, in Cleveland, a case of a nurse who acquired it in the performance of her duties. In Lakeside Hospital two orderlies were discharged with well-marked cases. It was only accidentally discovered by a nurse who called attention to it. The cases were at once recognized and the orderlies discharged. They had been giving baths, etc. The disease should be regarded as contagious as others now on the list, and should be subject to report as is smallpox, diphtheria, etc. It seems the only way to make a beginning in regulating and preventing the spread of this very prevalent and dangerous disease.

DR. E. WENDE, Buffalo, N. Y.—In regard to the board of health preventing the spread of this scourge, it is a matter which will present many difficulties in supervising. Yet I have frequently noticed a practice which is much in vogue in the hospitals of this country and Europe, that is, syphilitic patients are allowed to roll bandages for and dress the wounds of other inmates. It would seem proper that the profession should, as educators, first eliminate this custom from their own domain, before requesting special legislation governing such a delicate proposition.

DR. G. T. SWARTZ, Providence, R. I.—It would be very difficult in the face of the feeling against this disease, to introduce any regulations regarding it, so long as there exists so much difficulty in enforcing regulations against those diseases which have no such odium attached to them. I think the members of our profession should be brought to consider the desirability of speaking of this topic to one another and to patients, to treat it as a communicable disease, and a nonvenereal one. The time will come when it will be classed with the diseases which should be regulated. And though we can not expect to obtain all cases, nor have all cases reported, it will act something like the law regarding consumption in New York City. One-half of the physicians do not report consumption, yet the law is beneficial to that extent. In many cases which come into our practice, we do not know what to do with them; many patients would be amenable to restraint if we had authority to keep them. They are not received in our hospitals and must go back to their homes, to their families, with such ordinary precautions as we can give them, and you know how poor these can be. I think if this Section would put the matter in proper form, so that those outside of this Sections could see something was on foot in this direction, progress would be made and in a few years health officers would be willing to have ordinances and regulations covering the subject, and would be willing to attempt their enforcement.

DR. W. S. GOTTHEIL, New York City—I agree with the reader of the paper and yet there is an aspect of the matter which has not been touched upon, and which I think is of importance. We have had a good deal of trouble with the reporting of cases of tuberculosis in New York City, and if it becomes obligatory to report our syphilitics, I foresee practical difficulties of no mean order. We are dealing with a disease the duration of whose contagion is entirely indefinite, for we do not know when the mucous patch, for instance, ceases to be a source of danger; and to make all cases of syphilis reportable, so to say, would greatly increase the unpaid work with which the profession is already overburdened, and further interfere with the confidential relationship between physician and patient which is perhaps more essential here than with other affections. And while I approve of all preventive measures that are reasonable, we must beware of the inevitable tendency of the health authorities to go too far in such matters. That this has occurred already in New York in the case of tuberculosis is the opinion of many competent judges and to add syphilis to their field of action would hardly be wise. The disease is a stigma, no practitioner would report a private case, and I doubt whether it would be possible to do so with those of the clinics and hospitals. I would make a plea for great caution in increasing the power of boards of health to interfere with the private work of practitioners of medicine. Some of us think they do so far too much already.

DR. W. L. BAUM, Chicago—I believe very thoroughly in what Dr. Gottheil has just stated, and Dr. Bulkley's paper should be distributed, and given as wide distribution as possible into the hands of the general practitioner. While admitting the general theoretically correct methods which Dr.

Bulkley would pursue, I still think the province is in the education of the general practitioner in the regulation of syphilis, and also in inducing him to carry to his private practice these regulations, and some admonition in regard to the promiscuous intercourse which is constantly practiced. One of the best methods of securing benefits is by inducing health officers and hospital boards to admit larger number of syphilitic patients to the hospitals *for treatment;* but they *have no right* to detain such patients under the English common law, and it is a question in my mind whether they have the right to stigmatize these patients with the diagnosis of syphilis which can reach any degree of publicity. With the ordinary contagious diseases publicity carries no stigma as syphilis does, even if we call it by *another name.* A *tuberculous patient in a* family is not felt to be a disgrace, but a syphilitic patient in one reaches future generations, and in that way such regulation would be decidedly objectionable throughout the community and it would be impossible to enforce such regulation features. A majority of patients who might be detained in clinics would abandon those clinics and remain outside and distribute their disease more thoroughly than if they knew their disease was kept for private record rather than a public measure of protection.

DR. L. D. BULKLEY—Syphilis has been ignored from ignorance, and has been neglected from negligence, on the part of the profession and health authorities. The objections which have been raised in regard to the regulation of syphilis, as a contagious disease, I fully appreciate, and I did not say in my paper, nor do I now, one word in regard to reporting of cases. If the first step could be made, and the health laws were so framed that it would be as much of a crime or a misdemeanor to wittingly give syphilis to others, as it is to give smallpox or scarlet fever, the first wedge would be inserted whereby the door could be opened wider at a later date. What I mean is this: If the proprietor of a hotel puts a visitor in a room where there has been a patient with smallpox or scarlet fever, without properly disinfecting, he is liable to damages, because he wittingly allows one to get disease there. Now apply the same to syphilis. This simply opens a door whereby people could be made responsible for giving syphilis wittingly, and would thereby make the careless ones careful. If the keeper of a bad house should expose one to smallpox or scarlet fever, he would be as punishable as the keeper of a hotel. Let him be held responsible for syphilis acquired in his house, then he will be careful to have everything in his house free from disease. To do this he will see that none of his male visitors bring it in, and for this purpose he will have to examine the men. This would result favorably in checking licentiousness by keeping a certain number away who have venereal disease, and also some others from shame at having to submit to such an examination. This would further tend, in a measure, to check promiscuous street prostitution, as it would be recognized that women thus engaged were probably infected, while men already infected would fear prosecution in case they communicated the disease to others.

I quite agree with what has been said in regard to the difficulty of thus including syphilis among the diseases subject to health regulations. Cases would not be reported—tuberculosis is not—but the beginning has been made in regard to the latter, and the sooner that syphilis is put on the same footing the better. The word "stigmatized" has been used in this discussion. The sooner you can get the idea abroad that syphilis is frequently acquired otherwise than by sexual intercourse, the sooner will it be recognized that there need be no stigma connected with the discussion of it or its restriction by law.

Transposed Rectum.—A case of transposition of the rectum is reported in the *British Medical Journal* of March 23, in a boy of 5. The cecum was in a normal position, with a very long appendix passing through a hole in the mesocecum. The ascending, transverse and descending colons were normal, and the sigmoid flexure had a long mesentery which passed across the front of the cecum, but at the sigmoid flexure the bowel crossed behind the bladder to the right iliac fossa and down to the anus. The left iliac fossa was free from the large bowel.

RECENT CLINICAL OBSERVATIONS ON TINEA VERSICOLOR.*

CHARLES WARRENNE ALLEN, M.D.
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NEW YORK CITY.

The statement has recently been made that nothing further is to be learned from the clinical side of study in dermatology, and that all progress in this direction must come from effort to exhaust the possibilities of bacteriology and histology.

Granting that the preponderance of recent advances have been due to the finer scientific explorations with the aid of instruments of precision, and that this must continue to be the case, still, I can not believe that the clinical field has been exhausted. If it were not as true as it would seem to be that there is nothing new beneath the sun, the proposition that clinical discoveries are at an end might be successfully defended. Fortunately or unfortunately, we are prone to forget and are misled as to facts, once perhaps known and their importance appreciated. Rediscoveries must be made before we either learn of or come to realize the significance of certain clinical conditions.

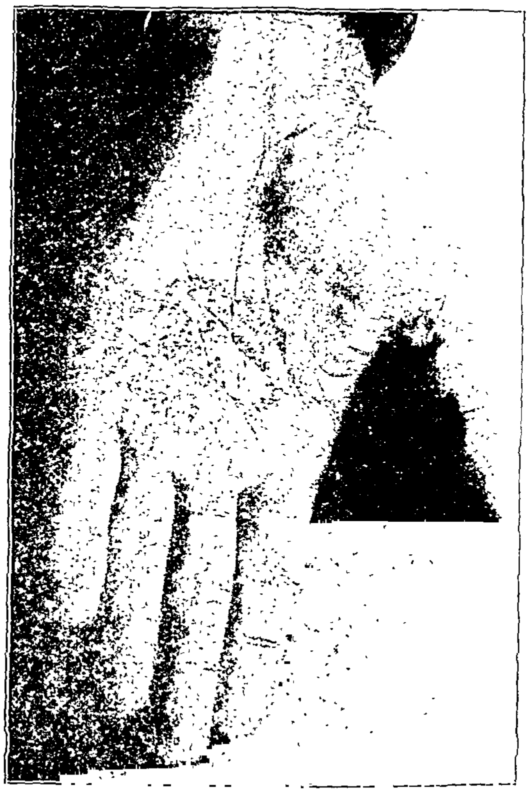

FIGURE 1.

If we take, for example, so common and readily to be diagnosticated an affection as pityriasis versicolor, one would suppose that the last word had been said in regard to its clinical features and that text-books would be in accord concerning all points connected with it.

To discover points of dissimilarity of view it is not necessary to go back to 1864, when Erastus Wilson, calling the affection chloasma—pruriginosum pigmentosum and furfuraceum—looked upon it as due to granular degeneration of cell tissue, "the granules being seen in great numbers under the microscope." Much more recent writers make statements which do not bear a critical clinical test.

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*Presented to the Section on Cutaneous Medicine and Surgery, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Among such statements are to be mentioned "the disease is never seen in children;" "there is an absence of eruption on parts exposed to light;" "it is never seen on the palms and soles;" "it does not affect the face;" "it occurs only in those who have seborrhea and dyspepsia;" "it occurs chiefly in phthisical subjects." One of the latest writers to state that the disease never occurs on the face is Bosenquest.[1]

It is not my intention to attempt a refutation of all of these statements. The occurrence of tinea versicolor in those below the age of 10 years has several times been verified by competent observers. Dr. Gottheil,[2] of this city, recently reported a unique instance of the affection located upon the palm, as shown in Fig. 1. Patches which were almost black in color had existed on the palm of a physician for fifteen years. When examined no other spots were found on the body.

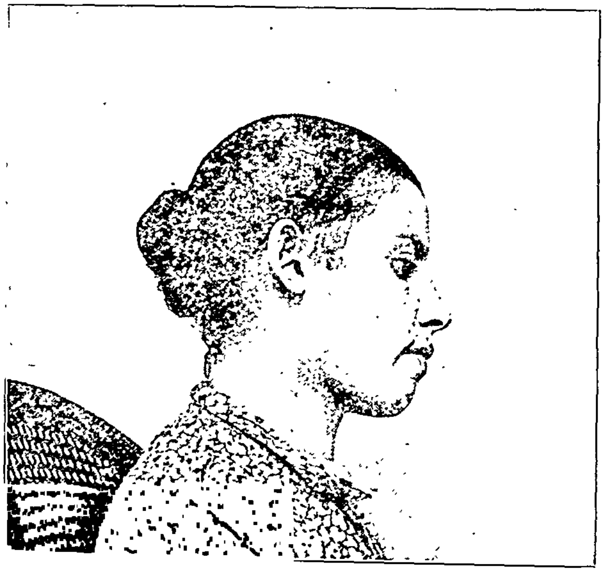

Figure 2.

The writer has in a number of instances during the past three years observed the affection on the face, as shown in Fig. 2 and Fig. 3. In both instances it extended from the neck over the jaw and upon the cheek. In the case of the boy (Fig. 3*a*), who is a favus subject, the lesions are seen well up in front of the ear. Upon the opposite side they extended only to the cheek on a level with the ear-lobe. The region involved has been painted with a strong iodin solution as a test, of which I shall presently say a word. The outline of the patches on the face and neck are somewhat better brought out by this procedure. I have also seen an isolated patch on the forehead in a young woman. It has been my observation that patches on exposed regions are darker than those hidden from the light.

Clinicians who have a large experience know that those in perfect health are affected as well as the debilitated. In the practice of a specialist for the lungs and heart, the vast majority of subjects of tinea versicolor will be also subjects of phthisis.

In my personal experience it is quite the exception to find phthisis, or indeed any other severe disease coexisting, and I have not been able as yet to verify the statement as to dyspepsia and seborrhea being frequently present.

A year or more ago I pointed out the clinical fact that there is frequently to be found in the pubic region of both men and women one or more patches of tinea versicolor which escape adequate treatment because hidden by hair. These patches often escape the observation of the physician as well as of the patient, and I believe they are to be looked upon as the source of renewed infection in the recurrences which so often follow a course of treatment. In a large number of patients who have presented themselves in the recurrent attack, with a history of having previously removed all the spots from the trunk by treatment, I have examined this region for hidden lesions, and my search has often been abundantly rewarded.

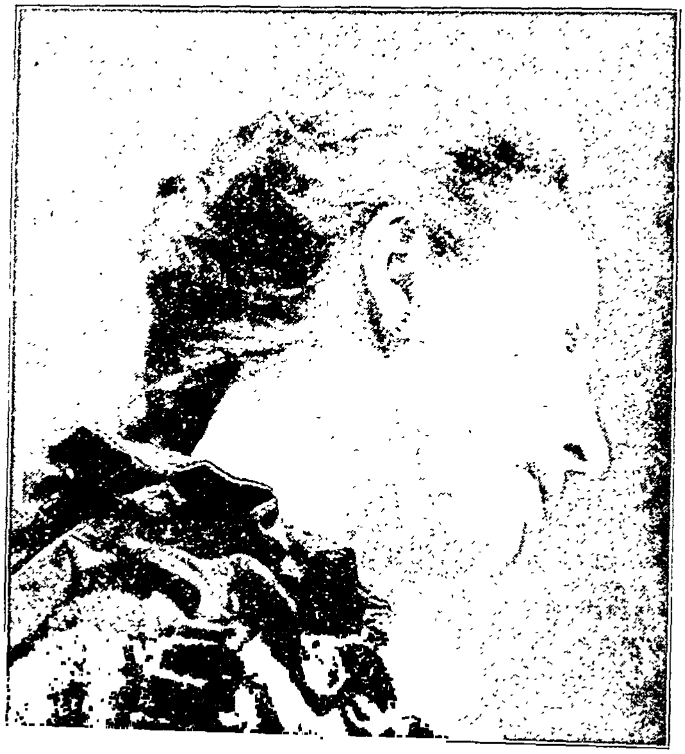

Figure 3.

There is one other source of latent or lurking disease to which sufficient attention has not been directed. The affection is almost invariably referred to as one of the superficial epidermis. If the outlying little islands surrounding the larger plaques are closely examined in their earliest stages of formation, it will be seen that they spring from a fine lanugo hair or follicular opening as a central starting point, from which the round spot slowly extends equally in all directions. Very little treatment often suffices to remove all that is to be seen upon the surface, but unless treatment is persisted in, the fungus which has dipped down into the follicle will, under favorable conditions, start up a renewed growth. In some rare instances a tinea versicolor of long standing will be limited to such small round lesions upon the upper portion of the chest.

The iodin test, to which I have referred, consists in painting suspected areas with Lugol's solution or tincture of iodin, the former especially giving a deep mahogany or dark brown color to lesions in which the fungus still exists. This is also a valuable test in distinguishing pigmented areas of this disease from chloasmas, macular syphilides, erythemas, exanthemata, etc. It does not distinguish between this affection and pityriasis rosea or disseminated ringworm of the body, both of which stain in much the same manner. It has the advantage of being at the same time curative, though perhaps in a lesser degree than some other commonly used remedies.

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[1] British Journal of Dermatology, October, 1899.

[2] Med Record, July 1, 1899.

The diagnosis without microscopic aid is not always as simple as we know it to be in the majority of instances. This may be because of unusual situation, unusual form, color distribution, or because of some modification by treatment which has been applied.

A remarkable black-ringed, deeply-pigmented eruption was presented a year or so ago at the New York Dermatological Society as some rare or undescribed affection. It turned out to be a pityriasis versicolor which had been treated by chrysarobin.

The diseases which are apt to be confounded with pityriasis versicolor are the pigmentary syphilide of the neck, unusual freckle-like pigmentations over the trunk, [illegible] to various causes, the pigmentation remaining after syphilitic roseola, vitiligo with surrounding [illegible] leprosy, seborrheal eczema, pityriasis [illegible] in a case recently seen the lesions were so [illegible] dermatitis that the picture was [illegible]

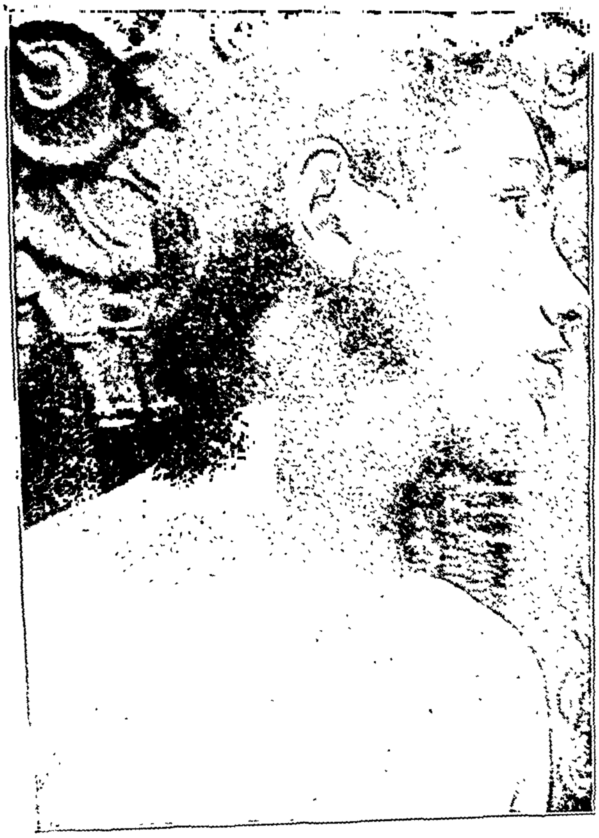

Figure 3a.

[illegible] as recorded by Willan, Cazenave and [illegible] form, at least in this [illegible] to an instance re[illegible] New York Dermatological [illegible] had been about [illegible] entirely sur[illegible] one an[illegible] scalp. So [illegible] such as a [illegible] almost [illegible] No [illegible] of washing [illegible] to remove the scales, and it was [illegible] vigorous treatment that the patient was freed from his disfiguring affection.

Another unusual form of the affection is that occurring as ringed lesions over the chest. I show a photograph of such a case in a young syphilitic discovered on stripping him in the stage of roseola. At first the outline of the rings were so like the acute mild attacks of seborrheal eczema in this same situation that such a diagnosis was suggested. Scrapings examined by the microscope at once dispelled this erroneous view.

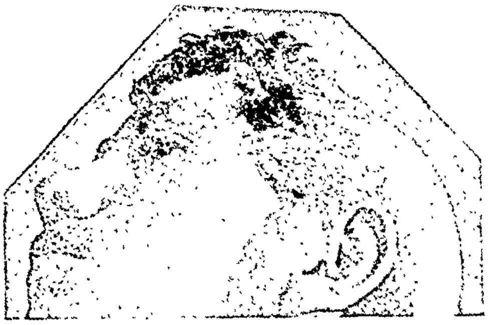

Fig. 4.—Iodin has been applied to cause the patches to show better.

Now a word as to treatment. Among the great number of recent suggestions added to the already large list of "cures," I have found one which promises well: a butter-like ointment made with calcium bisulphid in saturated solution, 50; lanolin, 20; lard, 30: To be applied twice daily. Lugol's solution is efficacious.

Soap of itself alone I have found capable of ridding the surface of the growth. A sand soap or one made with pumice-stone, etc., have rendered good service. Arthur Powell, writing of the disease as it affects the face of natives of Bengal, states that they not only seldom use soap, but that some anoint the body with oil, and we know from the sites of predilection of the eruption that those parts richest in sebaceous structures are mostly implicated.

EXPERIENCE WITH AN EPIDEMIC OF RABIES IN BUFFALO.*

ERNEST WENDE, M.D.

HEALTH COMMISSIONER, BUFFALO, N. Y.

An important fact to be gathered from history is the liability of hum[illegible]ings to be attacked by diseases of a contagious na[illegible]ansmitted through the agency of inferior animal[illegible]ases often present such unusual features [illegible] severity as to engage the serious attent[illegible]alth authorities, and al[illegible] the public [illegible]e more so than ra[illegible] account [illegible], distressing anxi[illegible]ality, its [illegible] the dog—and the [illegible]te disp[illegible]tence. It is a [illegible]r and [illegible] concerning [illegible]d go[illegible]ompanion. [illegible]crib[illegible]ifestations [illegible]pendent [illegible] through [illegible] man. [illegible]rrect [illegible]ities. [illegible]nce, [illegible]ful [illegible]sis of this interesting subject now, nor to discuss its antiquity, extent or origin, but merely to record a few facts and experiences that are especially connected with the epidemic of rabies, circumscribed within certain bounds in and about the city of Buffalo, N. Y., and now practically under control.

I wish to accentuate that the malady was first observed in November, 1898, in a pug-dog owned by a resident in the Kenmore section of the city, followed by a cow being attacked, and, later, by a horse from a livery stable on Jersey Street, the latter dying and the former being killed.

These were followed by a number of isolated cases, scattered throughout the city, at varying intervals, until June, 1899, when a stray dog, acting strangely, appeared in Alden, N. Y., and bit a dog, which subsequently went mad, biting several dogs, and among them, it was surmised, a large Newfoundland, of a playful and tractable disposition, that had never strayed from his master's threshold, was everybody's crony, the pet of the neighborhood, the willing comrade and frolicsome playmate of the village school children. It would almost seem that he was too gracious an animal, in the process of time, after catching the infection, to have become frenzied, and furious, and to have wandered miles from home, snapping at everything alike, whether animate or inanimate, and biting three men, two horses, four cows, and no one knows how many dogs.

Of the men, J. G. was attacked and severely bitten in the arm, near Wende Station, a distance of four miles from the home of this once affectionate animal. O. S. was bitten in the hand, at Looneyville, a mile or more further on, and S. J. W. likewise was bitten in the hand, in the Township of Lancaster, at a distance of at least ten miles.

The Department of Health, to arrest this terrible infection of these men intrusted to its care, did not hesitate to advise them to take immediate advantage of the treatment to be obtained at the Pasteur Institute, New York City. These, then, were our first cases to leave Buffalo for the special treatment of this unique and mischief-making complaint.

Of the horses bitten, one died; of the cows, three; while the dogs were mostly killed, leaving but a few to be securely housed for demonstration and observation of facts, however, only to see them grow uneasy, develop the disease and die. Somewhat later, at Derby, N.Y., a singular tramp dog also turned up, behaving in an uncustomary manner and, before being shot, bit seventeen dogs and two cats, all of which were promptly killed. These two cases mentioned must suffice to illustrate the deadly work that can be perpetrated by a single mad dog, for similar instances have been so frequent with us that it would be tiresome to try to enumerate them all.

Verification of the true nature of the malady was made in numerous cases by Drs. Bissell and Carpenter, bacteriologists of the Department of Health of Buffalo, with the result of uniformly finding the diagnoses to be correct. Further verification was had in portions of the brain of dogs sent to Professor Moore of Cornell University, and the Bender Laboratory at Albany, notably in one case where the dog presented but vague evidence of the malady. Direct inoculations upon fox-terrier dogs were made jointly by Dr. John Wende, veterinarian, and Dr. Carpenter of the Health Department, from rabid-dog brains, with the result of developing the malady on an average on the twenty-third day.

In a communication to me, from Deputy Commissioner W. C. Patrick, of the State Department of Agriculture, I am able to give the following illustrative cases of the epidemic in the rural districts. One vagrant dog bit one calf, one cow and possibly others. The calf and cow both died with pronounced symptoms of rabies. A second vagrant dog bit one calf and three cows, of which the calf and two of the cows died—undoubted signs of rabies. A third vagrant dog bit one horse and one cow; both died of typical rabies. A fourth vagrant dog bit one horse, two hogs and one cow; all died with rabies.

These animals belonged respectively to: L. T., Marilla, N. Y.; F. B., Marilla, N. Y.; J. V., Alden, N. Y.; W. J. R., A. S., C. F., and B. J. S., all of Lockport, N. Y.

These dogs were all acting strangely when observed, were aggressive, and bit without provocation, and attempted, though failed to bite many other animals. The animals bitten, and which died, were particularly examined and studied, and their malady diagnosed as rabies by Dr. Kelley, state veterinarian, Albany, N. Y., and Dr. Anderson Crowforth, Lockport, N. Y.

MUNICIPAL RESTRICTION OF RABIES.

The question of municipal control for the restriction of the spread of rabies is most important, presenting many peculiar aspects. The experience of the Department of Health of Buffalo, in securing legislation in the interest of public health, shows that such procedures can not be obtained without strong opposition from certain classes, some undoubtedly well-meaning, but not well-informed, others well-conned, but not well-disposed.

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The diagnosis without microscopic aid is not always as simple as we know it to be in the majority of instances. This may be because of unusual situation, unusual form, color distribution, or because of some modification by treatment which has been applied.

A remarkable black-ringed, deeply-pigmented eruption was presented a year or so ago at the New York Dermatological Society as some rare or undescribed affection. It turned out to be a pityriasis versicolor which had been treated by chrysarobin.

The diseases which are apt to be confounded with pityriasis versicolor are the pigmentary syphilide of the neck, unusual freckle-like pigmentations over the trunk, chloasma due to various causes, the pigmentation remaining after syphilitic roseola, vitiligo with surrounding pigmentation, leprosy, seborrheal eczema, pityriasis rosea, and in a case recently seen the lesions were so masked by an acute dermatitis that the picture was very confusing.

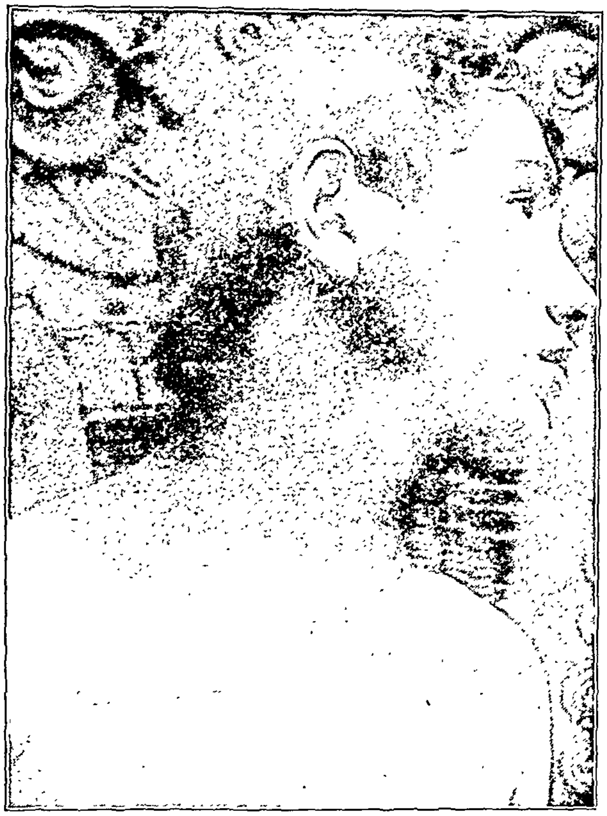

Figure 3a.

Pityriasis nigra, as recorded by Willan, Cazenave and Tilbury Fox, is so infrequent a form, at least in this country, that I will, in closing, refer to an instance recently presented by me at the New York Dermatological Society. The neck of a young man who had been about two months in the country was almost entirely surrounded with coal-black plaques running into one another and extending slightly upon the hairy scalp. So similar were the appearances to a dirty neck, such as a worker in coal might present, that at first glance almost all the gentlemen present were disinclined to attribute to the disease any great share in its production. No amount of washing, however, with soap and water, was adequate to remove the stains, and it was only after vigorous treatment that the patient was freed from his disfiguring affection.

Another unusual form of the affection is that occurring as ringed lesions over the chest. I show a photograph of such a case in a young syphilitic discovered on stripping him in the stage of roseola. At first the outline of the rings were so like the acute mild attacks of seborrheal eczema in this same situation that such a diagnosis was suggested. Scrapings examined by the microscope at once dispelled this erroneous view.

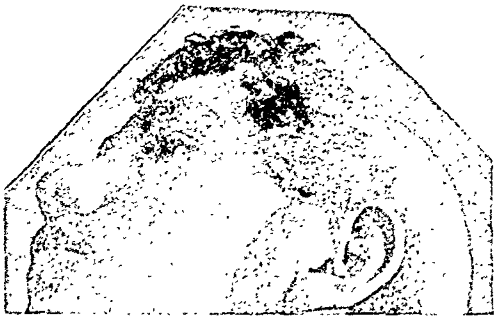

Fig. 4.—Iodin has been applied to cause the patches to show better.

Now a word as to treatment. Among the great number of recent suggestions added to the already large list of "cures," I have found one which promises well: a butter-like ointment made with calcium bisulphid in saturated solution, 50; lanolin, 20; lard, 30: To be applied twice daily. Lugol's solution is efficacious.

Soap of itself alone I have found capable of ridding the surface of the growth. A sand soap or one made with pumice-stone, etc., have rendered good service. Arthur Powell, writing of the disease as it affects the face of natives of Bengal, states that they not only seldom use soap, but that some anoint the body with oil, and we know from the sites of predilection of the eruption that those parts richest in sebaceous structures are mostly implicated.

EXPERIENCE WITH AN EPIDEMIC OF RABIES IN BUFFALO.*

ERNEST WENDE, M.D.
HEALTH COMMISSIONER, BUFFALO, N. Y.

An important fact to be gathered from history is the liability of human beings to be attacked by diseases of a contagious nature, transmitted through the agency of inferior animals. These diseases often present such unusual features of interest and severity as to engage the serious attention of the local health authorities, and alarm the public generally; and none more so than rabies, on account of its cruel character, distressing anxiety, mortality, its ever-present source—the dog—and the unfortunate dispute as to its actual existence. It is a much easier and more popular task to dilate concerning the habits and good traits of this inseparable companion, than to describe the peculiar morbid manifestations which can not be considered apart from or independent of the other mammalia that have been infected through his bite. It must be viewed in conjunction with man, if we would hope to form a just, enlarged and correct idea of its true significance and pathologic affinities. It is one associated with misconception and ignorance, which entails a large amount of needless and woful suffering, and even death.

It is not my intention to make a thorough analysis of this interesting subject now, nor to discuss its antiquity, extent or origin, but merely to record a few facts and experiences that are especially connected with the epidemic of rabies, circumscribed within certain bounds in and about the city of Buffalo, N. Y., and now practically under control.

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* Presented to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

I wish to accentuate that the malady was first observed in November, 1898, in a pug-dog owned by a resident in the Kenmore section of the city, followed by a cow being attacked, and, later, by a horse from a livery stable on Jersey Street, the latter dying and the former being killed.

These were followed by a number of isolated cases, scattered throughout the city, at varying intervals, until June, 1899, when a stray dog, acting strangely, appeared in Alden, N. Y., and bit a dog, which subsequently went mad, biting several dogs, and among them, it was surmised, a large Newfoundland, of a playful and tractable disposition, that had never strayed from his master's threshold, was everybody's crony, the pet of the neighborhood, the willing comrade and frolicsome playmate of the village school children. It would almost seem that he was too gracious an animal, in the process of time, after catching the infection, to have become frenzied, and furious, and to have wandered miles from home, snapping at everything alike, whether animate or inanimate, and biting three men, two horses, four cows, and no one knows how many dogs.

Of the men, J. G. was attacked and severely bitten in the arm, near Wende Station, a distance of four miles from the home of this once affectionate animal. O. S. was bitten in the hand, at Looneyville, a mile or more further on, and S. J. W. likewise was bitten in the hand, in the Township of Lancaster, at a distance of at least ten miles.

The Department of Health, to arrest this terrible infection of these men intrusted to its care, did not hesitate to advise them to take immediate advantage of the treatment to be obtained at the Pasteur Institute, New York City. These, then, were our first cases to leave Buffalo for the special treatment of this unique and mischief-making complaint.

Of the horses bitten, one died; of the cows, three; while the dogs were mostly killed, leaving but a few to be securely housed for demonstration and observation of facts, however, only to see them grow uneasy, develop the disease and die. Somewhat later, at Derby, N.Y., a singular tramp dog also turned up, behaving in an uncustomary manner and, before being shot, bit seventeen dogs and two cats, all of which were promptly killed. These two cases mentioned must suffice to illustrate the deadly work that can be perpetrated by a single mad dog, for similar instances have been so frequent with us that it would be tiresome to try to enumerate them all.

Verification of the true nature of the malady was made in numerous cases by Drs. Bissell and Carpenter, bacteriologists of the Department of Health of Buffalo, with the result of uniformly finding the diagnoses to be correct. Further verification was had in portions of the brain of dogs sent to Professor Moore of Cornell University, and the Bender Laboratory at Albany, notably in one case where the dog presented but vague evidence of the malady. Direct inoculations upon fox-terrier dogs were made jointly by Dr. John Wende, veterinarian, and Dr. Carpenter of the Health Department, from rabid-dog brains, with the result of developing the malady on an average on the twenty-third day.

In a communication to me, from Deputy Commissioner W. C. Patrick, of the State Department of Agriculture, I am able to give the following illustrative cases of the epidemic in the rural districts. One vagrant dog bit one calf, one cow and possibly others. The calf and cow both died with pronounced symptoms of rabies. A second vagrant dog bit one calf and three cows, of which the calf and two of the cows died—undoubted signs of rabies. A third vagrant dog bit one horse and one cow; both died of typical rabies. A fourth vagrant dog bit one horse, two hogs and one cow; all died with rabies.

These animals belonged respectively to: L. T., Marilla, N. Y.; F. B., Marilla, N. Y.; J. V., Alden, N. Y.; W. J. R., A. S., C. F., and B. J. S., all of Lockport, N. Y.

These dogs were all acting strangely when observed, were aggressive, and bit without provocation, and attempted, though failed to bite many other animals. The animals bitten, and which died, were particularly examined and studied, and their malady diagnosed as rabies by Dr. Kelley, state veterinarian, Albany, N. Y., and Dr. Anderson Crowforth, Lockport, N. Y.

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Therefore, every city in dealing with dogs should be provided with efficient rules, regulations and ordinances and demand their rigid enforcement, the features of which should embody: 1. Police supervision, registration, tagging, a large license fee and penalties. 2. Capture and death of all dogs at large not so registered and tagged. 3. Muzzling and leashing all dogs when at large. 4. Distribution by police to registered dog owners of cards educational in character, giving informa- concerning the care of dogs, rabies, ordinances, es. 5. Periodical police house-to-house census rmine that such regulations are in force. 6. ent quarantine against all localities known to ain this disease; and additionally during periods of idemics. 7. A large force of extra dog-catchers to raid the streets, catching, for destruction, all unmuzzled, unleashed and unlicensed dogs. 8. Police instruction to kill such animals, whenever found practicable, by shooting. 9. Destruction of all dogs, cats or other animals bitten under even suspicious circumstances. 10. Immediate cleansing and disinfection under official supervision of stables or premises where animals have been harbored while suffering from rabies. 11. The destruction by fire, or thorough cleansing with hot soap-suds, and disinfection of kennels, bedding and feeding utensils. 12. The skinning of carcasses of animals dying from rabies or suspected to have died from rabies should be strictly forbidden. 13. All carcasses of animals that have suffered from rabies, real or suspected, should be rendered harmless by cremation. 14. Prohibition to cure any animal suffering from rabies, or being suspected of suffering from rabies, without official permission. 15. The transportation, if ever necessary, of animals having or suspected of having rabies, should only be performed in a closed vehicle or receptacle.

By this combined system of raiding and police action rapid extermination is effected. Both methods are considered actually necessary on account of the dog-catching system being so possible of evasion—owing to the fact that the whereabouts of these officials spreads like wildfire, dogs are secreted and efficiency is thereby crippled. Therefore, in order to gain speedy protection, to succeed in suppressing an epidemic of this nature, the community at large must graciously express a willingness to accept the indicated procedures.

OBSERVATIONS ON THE BUFFALO EPIDEMIC.

Briefly, the prominent clinical characteristics of the Buffalo epidemic were: 1. History of altered behavior of the animals; they showing irritability, restlessness, changed disposition. 2. Desire to swallow foreign bodies—wood, stone, glass, dirt, grass, etc. 3. A tendency to stray; in the majority of instances the dogs left their homes, wandering away for one or more days, an act unknown in their previous lives, and returning in a bad condition, sick.

Of all the symptoms, in the furious stage none were so constant, characteristic and diagnostic as the alteration in voice; almost every dog manifested this evidence of paralysis of the vocal cords in the hoarse, howling bark, changing into a high-pitched falsetto-like note. All were characterized by biting and snapping at imaginary objects, with furious aggression toward anything before them—the floor, bucket of water, sticks, any article in fact within their reach. Many would hold on so tenaciously to objects held before them that they would be lifted by their hold and moved from one place to another. A marked symptom observed in cases of the furious form, and one to which attention has, apparently, not been called or observed, and which may become a strong differential diagnostic point, was the absence of any inclination on the part of the dogs to shrink or retire from impending blows or attacks. Ordinarily, a dog approached with a club in the attitude of a coming blow recedes, dodges and evades it. In dogs, however, with this malady blows could be aimed directly toward their eyes, face or head without their giving any evidence or appreciation of the impending danger of possible injury or pain. This was so noticeable as to be commented on by even non-professional persons, and was demonstrated over and again. Of course, when objects were held before them, or were coming toward them they would frequently attack them viciously, blindly, but between the paroxysms of fury, when quiet, dogs approached with a club aggressively, as stated, would pay no attention, the act being unappreciated. This is not the case with well dogs which, under such circumstances—depending on their dispositions—appreciate the movement and either endeavor to evade or retire from it or attack. This feature, noticed in rabies, I believe to be characteristic, and, if experience in this epidemic is a criterion, it will be found in the future when looked for.

Another symptom noticed and heretofore undescribed, when spasms of muscles of deglutition were violent, was a pouching out of the throat, visible externally. When present in this degree these spasms were followed by relaxation of the sphincters and involuntary defecation and urination.

At the dog pound, from the inception of the epidemic up to April, 1900, there were 4429 dogs disposed of, among which were 95 furious and 35 dumb animals.

From April 1, 1899, till April 1, 1900, the Department of Health investigated 230 cases of persons bitten by dogs. Of the 37 persons bitten by rabid dogs in the city, 4 died in the agonies of hydrophobia. A synopsis of their cases seems pertinent, on account of their rarity.

FOUR FATAL CASES.

W. B., living in the Cheektowaga Township, at the city boundary, had a mixed-bred collie watch-dog. The child of one of his near neighbors, 8 years of age, in passing the gate on his way home from school was, without provocation, bitten by the dog, which at the time was loose in the yard. On B.'s return to his home, the biting being reported to him, he searched for the dog; found it secreted under the barn, and in securing it was bitten slightly on the hand. The dog was killed and taken to the bone-yard, when, on opening its stomach it was found to contain sticks, stones, grass and other foreign bodies. No further consideration was, apparently, given to the matter of the biting beyond ordinary medical attendance at the time.

Eighty-one days later, however, the boy who had been bitten was taken sick and died on the fourth day, in great suffering, his illness presenting a classic picture of rabies in the human being. The death of the boy brought a realization of the possibilities of the case to B., who was sent without delay to the Pasteur Institute in New York for treatment, but he died under similar circumstances, the disease developing in him just two days later than in the boy.

A. F., a strong young man, was attending a dance, when a stray fox-terrier wandered into the dance-hall, acting peculiarly. He succeeded in throwing the dog out, but was bitten in the hand in so doing, as was also a second young man who had attempted it just previously. Neither of them paid any attention to the incident, further than to have their bites cauterized and properly dressed at the Fitch Hospital. On or about the thirty-sixth day he was taken ill with symptoms of an indefinite character, but which soon developed into a typical case of hydrophobia, when he was removed to the Buffalo General Hospital, dying there, in the greatest agony, after an illness of but four days. During the time he was in the hospital, his case was observed by a number of prominent physicians, all of whom diagnosed the case as typical, also considering it one of the most terrible death-bed scenes in their experience. The other man who was bitten disappeared, but was finally found with some difficulty and sent to the Pasteur Institute, New York City, for treatment, and he escaped the fate of his companion.

The fourth case of death from rabies in a human being was in the person of M. D., of 375 Peckham Street. She was under the care of Dr. Emil Lustig, and died after a three days' illness from typical hydrophobia. The death certificate of this case, as those of the others, are on file in the office of the registrar of vital statistics.

Postmortem Findings.—Autopsy on the child, performed by Dr. W. H. Heath, of the Health Department, showed the boy well developed, with some emaciation. Rigor mortis was slight; the skin cyanosed, particularly in the dependent part of the lips. The mucous membrane of the mouth and throat was more especially swollen, dark colored and congested, and the larynx and large bronchi reddened, and swollen, with an excess of tenacious mucus present. The lungs were found moderately congested. The heart, in diastole, contained the death clot, and the large vessels were filled with dark heavy blood. The stomach was normal, the liver very full of blood; the kidneys normal. The bladder contained a small quantity of urine, with no albumin. The brain showed intense congestion over the cortex, most marked posteriorly and over the medulla, extending down and fading away over six or seven inches of the upper part of the cord: on section, red punctuated points of engorged capillaries were present: the membranes were edematous and not adherent. The autopsy showed no pathognomonic lesions. Death was due to exhaustion and heart failure.

Those who dispute the existence of this disease and its fatal consequences, likewise assail the honesty of Pasteur's great work, the usefulness of the Pasteur institutes and the integrity and even commercial honesty of those who operate them.

Our experience and the deductions best drawn from it is briefly as follows: Thirty-four persons were sent to New York City for this treatment. These were all bitten by dogs pronounced rabid after careful examination by Dr. W. H. Heath of the Department of Health of Buffalo, a graduate of the University of Pennsylvania, and lately from the U. S. Marine-Hospital Service. The Doctor brought to this work the proper training, education and reputation, and, further, a strong personal interest, all of which is referred to as evidence of the correctness of the deductions and weight of opinion. During this epidemic many prominent physicians were induced to make personal examination of the nature and character of the malady and the various phases of it present in different cases. Of these, many were known to be owners of dogs, skeptical or non-believers in hydrophobia, and it is gratifying to note that, with that honesty characteristic of the true medical man, there was no difficulty nor hesitation in recognizing the malady, nor in acknowledging their previous erroneous views. One of these gentlemen, a professor in the University of Buffalo, in undergoing this change of opinion considered it his duty to exhibit a case of the affection to the medical class of the University, and give a clinical lecture thereon.

POPULAR MISCONCEPTIONS ON HYDROPHOBIA.

This epidemic demonstrated the fact that, at least in this section, popular misconception concerning certain features of hydrophobia continue to exist to a large extent and had to be contended with, viz., that after dog bites, in the event of the dog becoming rabid, the person bitten would become likewise affected; that dogs should be killed at once to prevent the bitten ones from becoming liable to the malady; and, singularly, no reference was made at any time in press or letters to the press to the superstition and curative properties of the "mad-stone."

To the writer it would appear superfluous to seriously present facts substantiating the existence of the malady in dogs, and its communication to man, were it not that a number of no doubt well-meaning, but misguided persons take the opposite view to the detriment and injury of their fellow beings. When consideration is given to the fact that governments abroad recognize the malady and make provision for it, that it has been the subject of investigation and demonstrated to be a malady of the most horrible possibilities, and by men of the highest ability and undoubted integrity, that it is considered in all classifications of disease, in all courses of medical education, in all text-books, it seems incredible that there can be found any to dispute the question. As the antivaccinationists seek for other reasons than the true one to explain the subjugation of smallpox, so do these persons seek by the most untenable way, in the light of facts, to explain this malady. They can not, or will not, see the simple fact that dogs get a fatal malady, inflict fatal wounds upon dogs and man with fatal results, and that it is possible to practically and successfully avert these consequences in man through a treatment which is based upon the correctness of views held by medicine concerning it; they are so strenuous to deny its existence in this connection.

The smallpox cases in Glasgow, up to March 18, numbered 1527 with 187 deaths.

PURE-FOOD LEGISLATION VS. POOR FOOD-LEGISLATION.*

MURRAY GALT MOTTER, M.D.
PHILADELPHIA.

For the purposes of this paper, it matters but little which of the above titles is taken; the one representing what is admittedly desirable, the other—unfortunately to a large extent—what actually exists. The problem involved is by no means so easy as, at first sight, it might seem. Much of our knowledge of the general subject is, as yet, but tentative and, in attempting to formulate it, so much depends upon our definitions. Certain general principles, however, seem to have been fairly established; and legislative enactments embodying them prove efficient or futile just in proportion as these fundamental principles are kept well to the front, or are lost in a mass of minor detail.

For the present we shall use the term food in its broadest sense, meaning thereby "the substances taken into the body which are utilized in maintaining the functional activity of the organism." This definition, given by Sidney Martin,[1] it will be seen may be made to include drugs, as well as foods and accessory foods, as they are more commonly understood. While it would be beside our purpose to argue that a drug is a food, or vice versa, it is certainly true that drugs are used to maintain "the functional activity of the organism," and as the subject of pure drugs is so frequently considered in connection with that of pure foods, the one general term may be used to include both—at least in public health discussions.

While the fact may be rather a sad commentary upon our times and customs, the necessity for legislation on these subjects is assumed to be granted. In a paper, not yet published, Dr. H. W. Wiley, of the U. S. Department of Agriculture, classifies food legislation in regard to its source, as national, state, and municipal. For obvious reasons, such division of the subject is, in this country, of peculiar import. Continuing, Dr. Wiley defines food legislation according to character, as general, subjective, prohibitive, restrictive, and fiscal. Taking them in inverse order, we can hardly look upon food legislation from the fiscal standpoint, however effective it may have proved, as other than an emergency measure. Of this, more later. Restrictive legislation is held to be objectionable because it can hardly be framed without more or less unjust discrimination. Prohibitive legislation is almost invariably a failure; that it has a distinctly deleterious moral effect has been deduced from our experiences in the effort to prohibit the sale of intoxicants. Subjective legislation is deemed too cumbersome for practical efficiency, inasmuch as it involves legal enactments for each separate product to be controlled.

General legislation then, according to Dr. Wiley, is the only just and practicable method of securing the desired results. The Brosius,' Mason and other bills before Congress partake of this character, and are to be executed by the (to-be-elevated) Director of the (to-be-erected) Bureau of Chemistry of the Department of Agriculture.

Here, then, we may hear the old cry: "There is no god but God, and Mahomet is his prophet!" It is rather confusing, though, to discover that there is more than one claimant to the title of "Defender of the Faith."

Dr. Charles A. Crampton,[2] Chief Chemist, Internal Revenue Office, in a recent article on "Food Preservation and Food Adulteration," declares that: "In view of the difficulties which have beset the path of the Interstate Commerce Commission in the exercise of their authority, it is a matter of grave doubt whether the Secretary of Agriculture would be able to enforce a law based upon the same authority. The Department of Agriculture, moreover, while it is well equipped in the matter of scientific experts, has no large force of local officers at its disposal, a most essential and expensive part of the machinery necessary to the proper execution of a measure which will involve the inspection of the entire area of the United States from Maine to California." Dr. Crampton seems to have overlooked the fact that the U. S. Department of Agriculture has, perhaps, a larger and more widely distributed "force of local officers" than almost any other of the government departments. It may be questioned, however, whether a veterinarian for instance—at least in the present state of development of our veterinary schools—would be wholly competent to fulfil the manifold functions which these proposed laws create; and if the veterinarian be incompetent, the revenue officer would be apt to be still more so. Dr. Crampton concludes that "a much more feasible plan . . . would be the enactment of a general law modeled upon the revenue laws now in operation, or the gradual extension of these laws to cover other articles of food liable to sophistication; the scientific resources of the Department of Agriculture could be well applied to the establishment of standards of purity, a most troublesome branch of the subject, and one not necessarily connected with the routine of its execution."

For any one familiar with the history of the old National Board of Health, and the steps by which it was practically smothered out of existence, it is easy to imagine that the Supervising Surgeon-General of the U. S. Marine-Hospital Service, writing in the same strain, might be able to demonstrate that that Bureau of the Treasury Department is the only possible government office to which the great work should be assigned. It is a fair inference, from Dr. Crampton's opening paragraph, that the War Department, too, may know something—at least of preserved meats.

Turning now to the bulky volume of testimony before the Senate Committee on Manufactures (Senate Report No. 516, 56th Congress, 1st Session), one is inclined to question "the wisdom of Congress" (invoked by Dr. Crampton), if it is to be adjudged by some of the propositions here set forth. Perhaps, from the standpoint of a chemist or a member of congress, "the great bulk of the condensed milk of the country is a perfect human food" (page 3), and candy may be "a natural and proper element of food" (page 9), but the members of the Section on Diseases of Children, of this Association, will scarcely endorse these dicta.

It would be as tiresome as it would be futile to wade through this conglomeration of repetitious testimony, the value of which, by reason of the way in which it was taken and recorded, is—from a scientific standpoint—infinitesimal; even were all the articles there enumerated mentioned, the whole field would not be covered. Nor do we find the National Pure Food and Drug Congress conducted with that singleness of purpose which might be thought desirable. Those of us who attended its sessions found much of the time taken up with the bickerings of conflicting interests, the cross-purposed wire-pulling of individuals who have axes to grind.

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* Presented to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Stevenson and Murphy: Treatise on Hygiene, vol. i, p. 393, Phila.: Blakiston. 1892.

[2] N. Y. Independent, vol. lii, No. 2681, pp. 942-44, 19, iv, 1900.

In spite of all these conflicts and differences of opinion—many of which arise from inability to get a comprehensive view of the whole situation, or from unwillingness to move in this matter with an entirely unselfish desire for the public welfare—there are some points about which all who are in earnest are agreed. For convenience, Dr. Crampton is again quoted: "The keynote of modern propaganda in respect to methods of control of food adulteration may be given in three words—viz. *an honest label!* No one wishes to deprive the poor man of his right to use a cheap and wholesome substitute for a more expensive article of food; it would be an unwarranted interference with the rights of both producer and consumer to prohibit the sale of such an article; moreover, it would be inimical to the advance of scientific invention, which has conferred a distinct benefit upon mankind by its production. But it should be sold under its true name and upon its own merits, not as or for the article of which it is an imitation or substitute."

The idea, then, would seem to be not that adulteration, imitation, sophistication, substitution, are unobjectionable, but that they would be practically impossible if everything were labeled *suo nomine*. From a scientific standpoint, it is desirable to demonstrate, wherever possible, that this or that food product is, or is not, wholesome. But there is a fact, so often overlooked by scientists as well as would-be scientists, which has been especially emphasized by Prof. A. B. Prescott in his testimony before the Senate Committee, namely, that laboratory reactions, test-tube physiology, are very different processes from those which take place in the human economy. Says Professor Prescott (Senate Report 516, page 197): "No two stomachs are in exactly the same condition. The contents of the stomach, the chemical agencies of solution in the stomach, are very, very, complex; in fact too complex to be fully defined by chemistry at the present time." Would that all physiologic chemists were so honest and frank! The inability of even competent chemists to reach final conclusions on these subjects is curiously illustrated in some of the German laws. In one section of the country we find that borax and boracic acid have been adjudged inimical to health, and therefore their use as preservatives prohibited. In another, we find that similar authority has decided that these preservatives are harmless and therefore their use is permitted.

Viewed from the other standpoint, the history of food legislation shows pretty clearly that the consumer may safely be left to his own instinct and experience to determine what is or is not wholesome. What he seeks and demands is simply the truth. So that, both physically and fiscally, the public weal is best conserved by absolute honesty. In proof of this take the testimony offered on the subject of mixed flour (Senate Report 516, page 5). Said Mr. Augustine Gallagher: "People don't want a mongrel, they want real goods; they are satisfied to trust their judgment. If they want any mixing done they wish to do it themselves. They do not wish to be victimized in the mixing. People understand there is no use of any one mixing products unless they are making money by the process. The enforcement of the flour act has accomplished more in three months than was ever claimed for it by the most extravagant. . . . Our export trade in wheat flour has increased between 24 and 25 per cent. during the first three months of the operation of the mixed-flour law."

This brings us to another point, well made by Dr. Crampton, the absolute futility of the attempt to inculcate moral principle by mere legal enactment. As he puts it: "the first and most important requisite to a more rigid control of the practices of false pretences and counterfeiting in the preparation and sale of food products is, not more legislation, but a more sensitive public conscience; not more illy considered and half executed laws, but more respect for existent laws on the part of the producer and seller, more vigorous assertion of his rights in the premises on the part of the buyer and consumer. So long as it is practically impossible, owing to the state of public sentiment, to send a man to the penitentiary for selling oleomargarine as butter, it will not be possible to execute with any degree of thoroughness further laws which multiply the number of the same character of misdemeanors."

What then, in conclusion, is the proper solution of these problems? The writer by no means feels himself competent to give a final answer to the question. Yet, there are suggestions which may come to the mind of any thoughtful student of the subject, and in proportion as they are honest and disinterested they are, presumably, worth recording.

In the first place, this subject demands a greater interest and a more thoroughly cultivated intelligence on the part of the medical profession. The physiology of digestion, absorption and assimilation and the whole question of dietetics, in health and in disease, together with that of practical therapeutics, must be more carefully worked out. These studies should be so conducted as to be wholly removed from the debasing influence of commercialism. We are yet far too prone to be led by the alluring advertisements of the enterprising manufacturer to try, and even to commend without a fair trial, the multifarious products which he foists upon the market—for revenue only.

Given such a preparation, the second point will have been insured, the adoption—by the profession, not by the laity—of certain definite and more or less reliable standards, embodying the fundamental principles involved.

The third item will have to do with the putting into effect and carrying out of these principles—necessarily a governmental function. And here I would ask, where is the sense in, what is the excuse for the miserable, puerile, petty jealousies of the various government departments in the discharge of these functions? In common with many other members of the Association, the writer has long hoped and worked for the establishment of a national department of health, which, logically, should have charge of this and all allied subjects. Perhaps our efforts along this line have been misdirected. Certainly any measure which would convert into a mere political organ what should be—if I may so phrase it—a purely scientific organism, is to be deprecated. But is this necessary? In the past ten years, as my acquaintance therewith has grown, I have been more and more amazed at the extent and value of the work of the many scientific establishments under the direction and control of our national government. From the standpoint of economy, the apparent waste arising from the duplication and reduplication of effort in this direction, is even more amazing. As a matter of fact, it would be very difficult to so differentiate and isolate these various works as entirely to avoid duplication. The diverse functions of the governmental body are as closely interrelated and interdependent as are those of the human body. Might it not be possible to establish a bureau of science, for instance, in which the achievements of these various laboratories—no matter in what department located—might be assembled and centralized, a scientific clearing house as it were? What matters it whether a chemical analysis be made in the laboratories of the U. S. Department of Agriculture, of the Treasury, or of War? There is no danger that a soil analysis will be attempted by the Biochemic Division, nor that a specimen of *Trichinella spiralis* will be referred to the bacteriologist of the U. S. Marine-Hospital Service. Nor yet is there any reason why the Entomologist's nose should be dislocated just because the Helminthologist is able to determine a specimen of *Boophilus bovis!*

Finally, when this whole subject has been properly formulated in the shape of a bill to be passed—not passed upon—by Congress, let the bill first be submitted to all specialists, all the trades, all the trades organizations whose interests are involved. Let each perfect his or their own section, showing in what way it will affect them and what points it is most important to secure. It is absurd to expect that a committee of Congress should wisely and justly determine upon the details of such a bill. Equally absurd is it that a chemist should define what is to be the part taken in these investigations by the botanist, the zoologist, the pathologist.

Several of the bills before Congress are supposed to contain all that is necessary, after a careful study of the food laws of other countries; but a comparison of these bills with the national laws of Great Britain and Germany, for instance, will show how utterly inadequate they are. It has been urged that, in prospect of the passage of the bill recently agreed upon by the National Pure Food and Drug Congress, it is best to withhold criticism—this upon the argument: "Better half a loaf than no bread." On the other hand, it may be said: "'tis better to bear the ills we have than fly to those we know not of." The bill referred to, if passed as agreed upon, will not only work a manifest injustice in certain particulars, but it will, almost inevitably defeat itself, in others.

633 North Sixteenth Stret.

A NEW LEG-SPLINT FOR TRANSVERSE FRACTURE OF THE TIBIA.*

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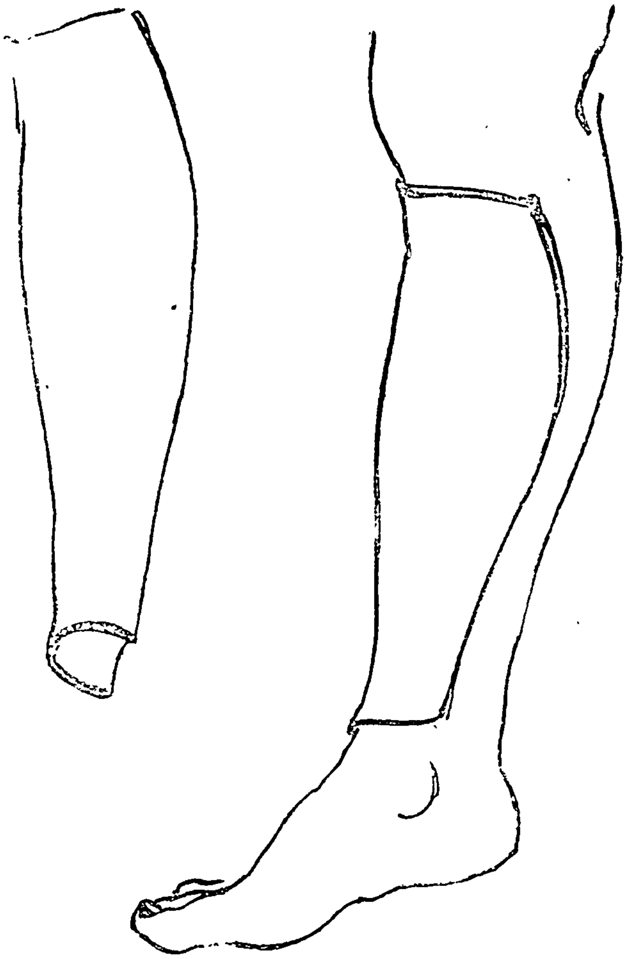
This paper considers, briefly: 1, why surgeons splint a broken leg; 2, the plaster-of-paris treatment for it; and 3, a new leg-splint devised by the writer.

WHY SHOULD SURGEONS SPLINT A BROKEN LEG?

The question, though elementary, is quite opportune, as shall be shown further on. Senn[1] says: "In the treatment of fractures as in the treatment of wounds of the soft parts accurate coaptation and effective fixation should be aimed at, so as to place the parts in the most favorable conditions to unite by the smallest possible amount of new material." Thomas Bryant,[2] in his manual, writes: "After the setting of the fracture, the essential part to be observed in its treatment is the immobility of the broken bone; and next to this, its exposure during the process of repair to render certain that the bone has maintained its right position."

These quotations are sufficient to answer the query why we should splint a broken leg. A reference to the medical journals of the past year will show, however, that several surgeons—notably Championnière—advocate the treatment of fractures without the use of immobilizing apparatus. Massage and passive motion are deemed all sufficient. It is difficult to comprehend the *raison d'etre* of the newer teaching, unless it be viewed in the light of a reaction from alleged immobilizing apparatus in vogue that has serious disadvantages. The swing of the pendulum of practice, from misfit immobilizing apparatus that often produces deformity, and always prevents the seasonable application of massage and passive motion, to no apparatus at all, is the swing of the pendulum that has many illustrations in the history of the practice of medicine.



One advocate of the new method of treatment gravely informs us that the Hottentots never employ fixation in fractures, but rely solely upon rubbing. Despite this interesting information, it is probable that the English-speaking races, with the restraining influence of their jury system, will continue to employ immobilization in the treatment of fractures. The necessity for the use of massage and passive motion in the treatment of fractures is not questioned. That manipulation alone should suffice in the treatment of fractures, as with the Hottentots, is untenable. The combination of fixation, massage, and, in proper cases, passive motion, is doubtless the most effective treatment.

THE PLASTER-OF-PARIS TREATMENT.

In describing this treatment, I shall quote an advocate of it, a skilful surgeon, Dr. Estes,[3] of Pennsylvania: "After a transverse fracture has been thoroughly reduced and the fragments accurately adjusted, there is comparatively little danger of the fragments slipping, if the foot be kept quiet and some stiffening splint be applied to the leg. Plaster-of-paris splints I have found ideal in these cases. Two strips of tin, one on either side, or some flexible wood splints may be used as apposition splints at the seat of fracture, to prevent any movement of the fragments, until the plaster hardens. Before applying the plaster it will be well to pad the leg with an even layer of cotton-wool and to use a flannel bandage over the cotton, neatly, but not too tightly, applied, from the toes to the knees. If the fracture be near the knee it will be well to extend the plaster dressing 6 inches above the knee. More or less swelling will surely result after fractures of the bones of the legs; it is well, therefore, to bear this in mind and never use very tight bandages. The cotton-wool when properly used and the bandage skilfully applied will prevent any hurtful pressure resulting, but the surgeon should carefully watch the extremity for twelve hours after applying the dressing, and he should instruct the patient and his attendants to notify him at once in case great pain in the extremity or swelling and discoloration of the toes should take place. In any case which it will be impracticable for the surgeon to see within ten hours after the application of the plaster-of-paris dressing, he should insert, while applying the dressing, a narrow strip of tin under the plaster just over the flannel bandage, and instruct the attendants in case swelling and persistent and very severe pain should follow, at once to cut through the bandage upon the tin strips with a penknife, and so loosen the dressing."

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* Read by title in the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] "Principles of Surgery," Phila., 1890, p. 56.

[2] "Manual for the Practice of Surgery," Phila., 1855, p. 63.

The necessity of splinting having been shown and the plaster-of-paris treatment described, it remains to consider, in the third place, the new leg-splint.

THE NEW LEG-SPLINT.

After the fracture is reduced, a piece of wood-plastic material is suitably cut, moistened with water and bandaged snugly upon the limb, directly next the skin, so that it embraces the shin-bone. The middle line of the long axis of the splint coincides with the anterior border of the tibia. This splint, lying next the skin, gives an efficient immobilization. It is light, cheap, and durable. At any time the surgeon can inspect the bone by unwinding the bandage and lifting up the splint. It thus permits of massage, to the importance of which this paper has already referred. There are no bits of wood, nor tin strips to be kept in place, no cotton batting to impair fixation, no flannel bandage, and no mussy application of plaster-of-paris.

Should the loosening of the apparatus be required in the absence of the surgeon, it can be done by simply unwinding the bandage. It is no easy matter for one unfamiliar with the technique to remove a plaster-of-paris "cast." The writer has treated cases of fracture where he would as well expect the attendant to know how to do an amputation, as to remove a plaster-of-paris dressing from a broken limb.

In conclusion, it is claimed that the leg-splint described fulfils the requirements deemed essential in the treatment of a broken bone, namely, efficient fixation, easy removal for inspection, or the application of massage, and proper protection of the weakened limb until normal bone reunion is complete.

SOME OBSERVATIONS IN RENAL SURGERY.[*]

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This paper is a contribution to the natural history of error. In these days of enthusiastic renal surgery every frank analysis of diagnosis gone wrong, of operative blunders committed, of difficulties unexpectedly faced, must be not only of interest but of actual value to those undertaking operations on the kidney. It is a trite enough observation that we learn more from defeat than from victory—this is my apology for directing attention to certain of the errors observed during the development of the cases recorded in this article.

Jacobson describes nephrolithotomy as "one of those advances in modern surgery in which the operation has outstripped the diagnosis."[1] This statement is borne out by the astonishing fact that of twenty-seven nephrotomies for stone he met failure in six. Henry Morris also remarks that within his observation sixteen unsuccessful explorations of the kidney had occurred. Those who are overconfident of their own abilities, or disposed to think harshly of diagnostic error in others, would do well to study carefully the valuable outlines furnished by Jacobson of his six unsuccessful cases.[2]

It is a pity that this classification of error has not been extended further, so that we could have some statistical view of the percentage of miscarriages occurring in all kidney undertakings in the practice of some of the best diagnosticians and operators. For it would appear that the true *terra incognita* of present day surgical investigation lies behind rather than within the abdominal cavity. It is instructive to observe that this lack of definition as to the exact location and condition of the kidneys, which has not yet been sublimated out of the medical mind, is reflected on lines of broader ignorance in the sensorium of the layman, who never displaces heart or liver, rarely has left-sided appendicitis, yet incorrigibly locates his urinary organs anywhere from the sacrum to the *vertebra prominens* and from the spinous processes to the axillary line.

The cause for this constantly recurring inexactitude of place conception becomes on consideration sufficiently apparent, nor can it from the nature of things ever be thoroughly eradicated even from the medical mind, but must continue forever as a bar to anything better than a respectable percentage of perfect diagnosis. Our direct ideas of location and condition or quality of any organ or thing are based on sense perceptions, which enable us to separate it from other structures and conditions; bearing this fact in mind, it becomes immediately obvious that we can predicate little—with that certainty which we apply to ordinary things—of an organ which can never be apprehended by sight or touch except as disguised by the body wall, and is never directly or indirectly manifest to the other three senses. Moreover, while the absolutely definitive location of a kidney as such becomes singularly elusive, much more so must be the definition of local and limited disease within the organ itself. It must, indeed, be admitted that we are rarely in a position where the surgeon can predicate with certainty and from direct testimony the complete location and condition of any given kidney before exploration.

What I have said with reference to the uncertainty of the *direct* evidence of position and structure, applies with equal truth also to any *indirect* or circumstantial methods employed to fasten the diagnosis of surgical disease upon one or both kidneys. It is an axiom of logic that the number and limitation of the premises being indefinite, the deductions must perforce become uncertain. Nowhere does this truth obtrude itself more constantly than during the endeavor to formulate a consistent and ultimately correct theory concerning an organ, the exact duplicate of which is found on the opposite side of the body, both organs pouring their only evidence of activity and identity into a common receptacle, and both of which are buried in fat and muscle and surrounded on all sides by organs, themselves scantily perceptible and themselves perhaps pathological both in location, position and intimate structure. Here we must of necessity often lodge finally, if we are honest, in a mere probability, putting up the moment before the incision with "the most likely looking" diagnosis, and more or less contented to follow in the lead of Lawson Tait, who solved the same kind of operative difficulties by observing laconically that "the kidney is best reached by the most likely-looking road."

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[3] "Internat. Jour. of Surg.," 1899.

[*] Presented before the Chicago Surgical Society.

Again, in groping for safe and infallible guides to this diseased organ, the surgeon is many times tempted to make deductions from single classical relations assumed on too narrow grounds to be inflexible in spite of changes in other organs and relations. If we would not make the error of placing the normal where it becomes abnormal, we must admit that normal relations disappear with the development of diseased conditions, so that no relation can be said to be normal or to be counted on in the presence of pathology. Most of us have at times lost sight of the fact that the principles of regional anatomy can not be applied to organs which have become so distorted through disease as to fall entirely out of their position, leaving vacancies into which other organs are at liberty to fall. We must admit that the colon lies in front of the kidney, and that the spleen and liver and gall-bladder lie above and in front of the colon; yet if we apply these truths too liberally, or lay down too many rules for the surgical guidance of our country friends, based on the literal and normal anatomy of these parts, we land them presently farther from the truth than if they had attacked their problems with ordinary common sense. Certain of the cases cited below bear witness to this point.

A somewhat acrimonious discussion which took place two years ago as to the relations of the portal vein to the common duct of the liver served to illustrate the fact that normal relations may be dangerous to follow in pathological and surgical dissections, for while we must admit that the vein normally lies entirely behind the duct, many of us have had occasion to thank Dr. C. Fenger for calling attention to the fact that in the engorged and distended portal vein incident to many diseases of the liver, the duct may be imbedded in and surrounded, in a great measure, by the vein.

This paper, therefore, is not written with the idea of exploiting any new or peculiar method of diagnosis in renal surgery, but rather to show that after careful consideration of this class of cases, and after applying faithfully to the elucidation of their diagnosis all of the methods commonly noted in the text-books, we still find it necessary many times either to confess ignorance or to run a large chance of being presently overtaken by error.

In the following reports we see the kidney taken for the spleen, and the spleen for the kidney; we see the liver sinking behind the colon to confound the surgeon in search of a kidney, and the kidney stretching its pedicle until it lies flush against the anterior abdominal wall; we see the gall-bladder finding its way into the loin and again into the iliac fossa, perinephritic abscess masquerades as calculus or appendicitis, and empyema as renal cancer. We see stone in the kidney treated for Bright's disease by the clinician, but we also see the kidney cut by the surgeon for stone and none found. Surely a chronicle such as this must give us pause if too much inclined to assume the skiagraphic eye when making a diagnosis of those surgical diseases lying in relation to the posterior reflection of the peritoneum.

Case 1.—A. B., aged 27, country schoolmaster by profession, of good family history, but of excessively neurotic temperament, came to Cook County Hospital, complaining of frequent and painful micturition, with pains shooting into both groins from the lumbar region.

There was no history of gonorrhea, or of sexual indulgence of any kind, no varicocele, and the patient was unmarried. There could be no question about the frequency of the micturition, which occurred at least every half-hour during both day and night, and had caused him to lose much flesh through loss of sleep and food. An examination of the urine showed hyperacidity, a few blood cells, but no pus. An exploration of the bladder by means of the sound revealed nothing except an abnormally sensitive prostatic urethra, which was accordingly dilated, but without improvement. After trying various remedies, including large doses of bromids and pichi, the patient begged for operative measures, and accordingly the bladder was opened and drained, with complete relief of the symptoms. This relief, however, continued only as long as the bladder was open, and when the wound closed—which it did some time after his return home—his symptoms were as bad as ever, and he was absolutely unable to perform any of his duties. He returned to the hospital, where he showed no change in his symptoms, except that the pain was referred more directly to the left side. He underwent a nephrotomy of that kidney, the organ being thoroughly explored for stone or other pathological condition, but nothing abnormal was found. After this operation he was assured that he would be absolutely relieved, which proved to be the case until some time after he returned home and the wound was thoroughly healed. Eventually, his symptoms returned, this time being referred to the right kidney with redoubled severity, and he came once more to the hospital, very much emaciated and begging for a final operation on the remaining kidney. At this time his symptoms were thoroughly canvassed; the acid urine voided at frequent intervals and containing blood in small quantities, together with the pain-shooting from the loin into the testicles, were thought to justify a third search for stone. At the third operation the result was similarly negative, except that there was an obstinate hemorrhage, which was thought at the time to have been controlled by gauze packing; during the night there was either a continuance or a return of the hemorrhage, and the patient died. At the post-mortem, there was found an incision into the renal vein, from which something like two quarts of blood had escaped, finally forcing its way into the peritoneal cavity. Other than this, there were no conditions which could be called pathological beyond great thickening of the bladder walls with an abnormally small bladder. There was no stone.

This painfully instructive case discloses the fact that frequent and painful micturition with acid urine and a mild hematuria, may result simply from abnormally developed excitability of the genitourinary system, produced by conditions closely resembling hysteria. In the absence of better defined objective symptoms of organic disease it would seem that this case should never have come to an operation. Nature, unhampered by the suggestion of operative interference would very likely have worked out a cure.

Case 2.—G. S., age 32, normal weight 210 pounds, saloonkeeper by occupation, was referred to a hospital with what was thought to be appendicitis requiring operation. After some days' treatment in the hospital under observation both of the physician and the surgeon, his symptoms subsided, and the case not seeming to call for an immediate operation, he was discharged, under the diagnosis of catarrhal appendicitis.

After leaving the hospital, the patient returned to his occupation, but continuing to lose flesh, his weight then being about 190 pounds, he consulted several surgeons for the purpose of confirming or establishing a diagnosis. By one surgeon his condition was held to be due to appendiceal abscess, with the appendix lying underneath and parallel to the colon; by another, a diagnosis of renal calculus was made. He then consulted the writer, and after an examination of the urine, which was neutral and contained a small quantity of blood and pus, I held to the first diagnosis, believing that the organic elements in the urine were due to the proximity of the abscess, the large number of the symptoms, viz., pain, slight temperature, constipation, recurrent intestinal colic, with occasional vomiting attacks being thought sufficient to turn the diagnosis in the direction of appendicitis. There was no tumor, but the right rectus abdominis was rigid and deep pressure showed tenderness. At the operation I found the appendix non-adherent and non-suppurating, but erect and in a condition of catarrhal inflammation. It was therefore removed, and the wound healed without temperature or complication. Shortly before leaving the hospital, the urine commenced to show a considerable increase in the quantity of pus, the reaction varying from mildly acid to mildly alkaline, and an evening temperature of 100 developed. This was thought to be due to a chronic cystitis, the patient having drank the alkaline Missouri River water for several years. A deep stricture was found and dilated, and the bladder washed out daily. The temperature fell, and most of the pus disappearing from the urine, he was discharged feeling much improved. After a period of about three months the patient returned with a farther loss of weight of about twenty-five pounds, stating that the pain in his side, which appeared to have been relieved by the operation, had returned, together with hectic fever and a large quantity of pus in a neutral urine, accompanied by intermittent hematuria. It then became evident that the diagnosis of stone in the kidney was a most probable one, since there was great and definitely located pain on pressure below the twelfth rib, which could not be said to have existed as definitely before. The pelvis of the kidney was therefore opened and drained. No stone was found, although the needle was freely used in exploring the kidney substance, but the pelvis on exploration was found to contain a considerable quantity of pus, blood and debris. This was thought to represent the extent of the disease. The operation was followed by fall of temperature, and cessation of the symptoms, except the pyuria continued, though less in quantity. The tube remained in the wound for three weeks, and the patient was discharged with a urinary fistula, through which at least a portion of the urine of that kidney made its escape. It was thought that a subsequent nephrotomy would be necessary at no distant date. In two months my good friend returned, emaciated by hectic fever and pain to 140 pounds, and with the urine containing a large amount of pus, but no tubercle bacilli or cheesy particles. At the third operation, which was performed under great difficulties in consequence of the enormous development of fibrous tissue in and around the kidney capsule, at least one-half of the renal structure was found to have disappeared, being replaced by fibrous and granulation tissue and sinuses leading in several directions. No abscess, however, was seen until the kidney had been partially extirpated and drawn into the wound. This procedure was attended by increasing difficulties, owing to the adhesions in all directions requiring a dangerous amount of traction to deliver the organ and its capsule. These adhesions were especially noticeable in a direction upward and behind the liver, and the final effort to free the organ literally pulled out the wall of a large cavity above the kidney and between the liver and diaphragm. After such pedicle as was possible had been formed from the fibrous tissue adjacent to the pelvis, the pedicle was clamped with three large forceps, which were left *in situ*, it being impossible to differentiate the ureter and renal vessels in the mass of adhesions. Attention was then directed to the abscess cavity, from which was cleared out a great quantity of pus, broken-down blood-clot, granulation tissue and partly organized abscess wall. In evacuating this mass of semi-solid debris, my entire hand was introduced between the liver and the diaphragm, barely reaching to the top of the cavity, but not identifying disease either of the lung, liver or spine as the source of the suppuration. The operation was followed by no shock, the fever and pain at once disappeared, and within a week the urine was free from pus. The clamps were removed on the third day and there was no resulting hemorrhage. It was found, however, that a small portion of the kidney had been left in the lower portion of the wound, and from this urine continued to be secreted through a sinus for about two months. There were no other complications, and at the end of three weeks the patient left the hospital. In three months the wound was entirely healed, and the patient at the present time weighs 230 pounds, secretes a normal quantity of normal urine, and is indulging enormously in stimulants.

It is of interest to know that this patient, when about to leave the hospital for the fourth time, finally recollected having fallen heavily against some article of furniture while entering his house one night in an intoxicated condition, and that he spent two days in bed, suffering great pain in the right lower portion of his chest, and that there was some discoloration of the skin over the lower ribs, continuing until about six weeks before he went the first time to the hospital.

This case certainly illustrates to a remarkable degree the vicissitudes of renal surgery. In the light of subsequent developments, some of the errors may seem inexcusable; nevertheless, I was not the only one who fell into them, for two other surgeons had previously made a diagnosis of appendicitis as the pathological condition. It is obvious that the error was based on too little attention paid to the relation of the pain to McBurney's point, and in failing to give the small amount of blood and pus present from the first in the urine their proper value. The temporary improvement in the patient's condition after the first two operations was due to the rest in bed. Again, it is probable that not sufficient care was taken in securing a previous history and a little more careful questioning by his four or five surgeons might have brought out the story of trauma. Too little attention also was paid to the fact that the urine was often acid in reaction, although containing pus and blood; this would have ruled out the theory of cystitis secondary either to stricture or to the drinking of alkali water. Fourthly, the first operation on the kidney should have been a nephrectomy and not a nephrotomy, thus saving the patient the perils of three operations. Lastly, the questions must arise, Was this abscess primarily in or above the kidney, and by what method could it have been located in the absence of bulging of the side and increased liver dullness?

CASE 3.—Mrs. B., came to me with the diagnosis of Bright's disease, having been under treatment for one year for chronic nephritis. I found her suffering with slight temperature, and there was great pain in the right lumbar region shooting into the groin; there was a point of greatest tenderness about two inches above the anterior superior iliac spine, not accompanied by swelling. The urine was acid, contained no casts, but a large quantity of blood, pus and mucus; after filtration there was no more albuminuria than the blood serum would account for, and after repeated examinations, most of the blood, with practically all of the albumin disappeared. She was presently sent to the hospital for a nephrolithotomy, but prior to going there two skiagraphs were taken, the lower end of the plates reaching to the crest of the ilium. On development these proved negative, and the operation was postponed for several days until the urine could be taken from the separate kidneys after Harris' method. The separate urine analyses also proved negative, for the urine from both kidneys was acid, and contained pus and few blood cells. On account of these negative findings, the operation was again deferred, the patient was put on large quantities of water with urotropin, and the bladder was washed out daily.

Under this treatment she steadily improved, and as there was no recurrence of the pain she was discharged from the hospital and visited me at my office. She gained in weight and comfort for two months, and one day brought in a brownish calculus the size of a navy bean, which had passed without pain. On examination the calculus was found to be rough, but nearly round, and to consist almost entirely of urates. She is now in good health, though pale, and the urine still contains pus and mucus, but no blood.

This case is a typical one of nephrolithiasis, but the negative character both of the skiagraph and the analysis of the separate urines saved the patient from an operation. Had the pain continued, or should it have recurred the indication was clear for operation, but it is plain that neither skiagraph nor separate urine analysis gave any assistance in diagnosing. It is possible, however, that the stone was in the ureter below the field of the plate.

Case 4.—Mrs. H. In this case a very small stone was imbedded in the right kidney of a stout, gouty woman. Pain, accompanied by the passage of very small particles of gravel, without hematuria, were the only symptoms. The urine was acid, and contained urates. I hesitated to operate until a skiagraph had been taken, which showed a small stone on the right side. At this operation I had occasion to experience the solid comfort which can come from the positive evidence of the shadow found in the skiagraph, for without the testimony of the picture the search for the stone would have been abandoned. On opening the pelvis nothing abnormal was found, and the needle was introduced over twenty times before it encountered a small uric acid calculus the size of a split pea deeply imbedded in the substance of one of the pyramids. The operation was followed by a complete recovery from the symptoms.

Case 5.—Mrs. B. A case where phosphatic gravel was repeatedly passed, together with blood and pus, and with intense pain located in the left loin. A sound in the bladder found numerous rough, gravelly surfaces and some ulceration. The surfaces were gently curetted and the bladder washed out daily, but there was no relief from the pain, which apparently radiated from the left kidney. No skiagraph was taken, as the symptoms were thought to point sufficiently toward stone in the kidney to warrant a nephrotomy. This was performed without result, the pelvis being thoroughly explored, and the kidney, which seemed perfectly healthy, was repeatedly needled. The wound closed rapidly, with no apparent infection, and the patient was sent home. In four weeks she returned with high fever, chills, and great pain in the same kidney, which was thereupon opened and found to contain multiple abscesses, requiring a nephrectomy, which was performed by Dr. Eisendrath. The wound did well, with the exception of a sinus from the ureter, and six weeks later I dissected out this structure from the kidney incision down to the broad ligament. She then made a good recovery, but still continues to suffer with her bladder, the condition of which seems to be due to a cystocele.

It would appear that this nephrotomy should hardly have been performed wihtout a previous skiagraph, especially since the patient was hysterical and complained of pain in the opposite side. I am also convinced that while the case has been previously reported[3] as one of surgical kidney, it should properly be classified as one of direct infection at the first operation; for not only were the kidney and pelvis apparently normal when I first incised them, but on removing the ureter at the third operation, that tube was found to show neither dilatation nor gross pathological change. If we accept the current definitions of surgical kidney, this one could hardly be classified as such, since the definition implies the spread of suppuration from the bladder up the ureter into the kidney, and must of necessity call not only for evident ureteral dilatation and infection, but also for chronic changes in the kidney and pelvis.[3]

Case 6.—This was one of wandering kidney in an hysterical French woman, which I report because the condition was not recognized by me while the patient was on the table under an anesthetic, but was discovered by the house surgeon as she was erect and preparing to leave the hospital. The kidney could be brought close up to the anterior abdominal wall and had a decided pedicle. A nephrorrhaphy, after the usual methods, was performed, and although the kidney has been found in place by several surgeons, the patient claims to have sustained no relief from her symptoms.

Case 7.—A case in which nephrotomy had been performed four months previously by another surgeon, with the successful removal of a stone of considerable size; a fistula persisted, and patient came under my care for relief. On examination the entire secretion from the right kidney was found to be escaping through an opening, remaining at the lower extremity of a very long lumbar incision. An effort was made to close the opening by curettage, and by keeping the patient on the opposite side. This was unsuccessful, and an opening was made embracing the lower half of the former incision, but extending to just above the middle of Poupart's ligament, as in Koenig's incision. The muscles being dissected back and the uninjured peritoneum stripped up, the ureter was disclosed from the brim of the pelvis to the point where it entered the pelvis of the kidney. No visible disturbance in the continuity of the ureter being noticed, a ureteral bougie was passed into the fistula in the hope of finding the ureteral orifice. The search was unsuccessful, except as it led to the discovery that the fistula passed directly through the lower pole of the kidney into the most dependent portion of the pelvis, and that gravity alone, without other assistance, would drain the bulk of the urine into the fistula. But this did not account for our inability to find the ureteral orifice, and a small incision was therefore made in the ureter about three inches below the kidney, through which the bougie was passed upward. On reaching the pelvis it would pass no further, and a careful inspection disclosed the fact that the scar from the original incision had passed through the lower portion of both kidney and pelvis, nearly bisecting the ureter. The contraction of the scar had evidently completely excluded the ureter. After some consideration it was decided to divide the stricture from without, cutting down on the point of the bougie by an incision parallel to the long axis of the ureter, and then to unite this incision—when it became evident that the ureteral orifice was again patent—transversely to the long axis of the tube after the Heinecke-Mickulicz method of pyloroplasty. This was accordingly done and the bougie, after closing the lower ureteral opening, was left *in situ*, the upper end projecting through the fistula. A drain was introduced down to the kidney and the wound was closed. No complication followed the operation, but on withdrawing the bougie, after five days, the urine refused to resume its flow through the original channel. The patient now passes the entire urine from that kidney through the fistulous tract. No nephrectomy was advised, because the urine from the opposite kidney contained some albumin and a few hyaline casts.

This case is instructive in showing that there is danger in too extensive incisions into the kidney substance and that in no case should the knife be carried so far through the lower pole of the organ as to encroach on the ureter. It is instructive also, in showing that the persistence of urinary fistulæ may be accounted for by gravity alone, since in this instance the fistulous opening from the pelvis must in the erect position have been considerably lower than that of the ureter. In such a case it was an absolute waste of time to try to close the urinary fistula or to attempt to restore the patency of the strictured ureter by plastic operation.

Case 8.—Mrs. G., a tall, pale, neurotic, small-waisted woman of 46, who boasted that she had been attended by twenty-four physicians prior to my own brief ministrations. She submitted to my examination, which was made at the request of her medical adviser, complacently, yet with frankly expressed doubt as to my ability to make a diagnosis, in which opinion I presently joined her. She gave a history of fairly normal pelvic organs, and the urinary examination was negative. Her digestion was impaired and her yellowish pallor showed deficient blood-production, though not sufficient jaundice existed to definitely associate the liver with her condition. There was constant slight pain or discomfort in the region of the ascending colon, and palpation showed an indistinct body encroaching, as it seemed, from behind that structure. The patient stated that the enlargement was of recent date, as she had not noticed it until a year previously. On distending the colon it was found to lie in front of the growth, and the liver, apparently not enlarged, could not be shown to be either continuous with or separated from it. The tumor was fixed, did not seem to move with the slightly prolapsed liver, and could not be pushed into the kidney position. The flank was neither sunken nor swollen. This case has already been presented to a clinic as one of renal growth, that diagnosis having been based on exclusion of the liver, because the distended colon covered the lump. My own diagnosis was withheld because the tumor was indistinct, the other symptoms were obscure, the patient had not failed materially, and the colon relations alone were not sufficient to bring conviction that a prolapsed and adherent liver could be excluded. A preliminary examination under ether was proposed, but was refused by the attending physician on the ground that the patient was hardly strong enough to bear two anesthetics, so she passed on. An operation, performed at a clinic two weeks afterward, for removal of the tumor, disclosed a prolapsed corset liver with omental adhesions. The kidney was normal.

This case illustrates the fact that deductions based on colonic relations are not always to be depended on. The absence of urinary findings was in itself suspicious, though blood and kidney or tumor elements are not present in more than 60 per cent. of renal growths. Again, though the patient was ill-nourished, she was not cachectic and took life rather too easily for one afflicted with a growth of a malignant nature, such as this would probably have been had the kidney really been the offending organ. The case serves also to demonstrate that the elusive nature of the diagnosis of loin tumors should preclude anything like positive predictions as to their origin.

Case 9.—This patient illustrates the same points and was brought by a suburban physician for the relief of gallstone colic. The patient was well nourished, with a color showing no trace of icterus; the doctor, however, stated that there had been jaundice, and severe colic located near the tip of the twelfth rib. An examination showed a rather movable tumor the size and shape of the kidney, behind the colon and near the edge of the quadratus lumborum, apparently too far back to be the gall-bladder. Urine analysis was negative. A cautious diagnosis of renal misplacement with possible tumor was made, but the incision was brought farther forward than usual, both because of the location of the swelling and in order to reach the liver in case of error. This course proved to be a wise one, for the tumor was a distended and prolapsed gall-bladder with a very long duct, and contained mucus and calculi. Recovery was perfect.

This case was not mine, but I believed the kidney was the organ at fault, simply because it lay adjacent to the usual kidney location and felt very much like that organ. Of course, the negative urinary findings were ignored, as well as the small voice of the country doctor who was posted on jaundice, but had not read up on colonic relations. The case offered also an illustration of the practical working basis furnished by Lawson Tait's observation already quoted, that "the kidney"—or any other organ—"is best reached by the most likely-looking route."

Case 10.—This case is introduced to demonstrate that the gall bladder may prolapse in front of, as well as behind the colon. The patient was brought to the city by her physician for an operation for appendicitis. When I saw her there was a not very tender tumor lying close to the abdominal wall, slightly above McBurney's point. Temperature and active symptoms had subsided, but the tumor continued. I made an incision without attempting a diagnosis, and found a prolapsed gall-bladder containing calculi and some pus mixed with mucus. There was recovery with a biliary fistula, taking a year to close.

Case 11.—T. C., aged 24, weight 110, family history tuberculous, and patient himself had had chronic cough and night-sweats for a year, with progressive emaciation. Right apex consolidated. A few days prior to admission to the hospital he was taken with colic, vomiting and constipation, and the right rectus abdominis became rigid. The abdomen was not distended and the temperature ranged a. m. 99, p. m. 101, with sweats at night. Pain was constant, but the vomiting and constipation disappeared shortly after admission. Urine analysis negative. There was no definite history of other attacks. Although the symptoms pointed strongly to appendicitis, the tendency of the pain to locate itself rather higher and more posteriorly and deeply than in appendicitis was thought worthy of consideration. Operation was withheld for thirty-six hours on account of these doubts, but there finally seemed no good reason to question the diagnosis of appendicitis. My house surgeon performed this operation, and was instructed to incise higher and more posteriorly than in an ordinary appendectomy incision. He was so convinced, however, that he was dealing with appendicitis that an incision was made over McBurney's point, which presently had to be extended four inches higher to reach a peri-nephrectic abscess containing several ounces of pus of tubercular origin. The appendix was not involved.

This case and Case 2 warn us that all abscesses covered by the ascending colon are not from the appendix. Taken with the preceding—Case 10—we note also the value of McBurney's point in establishing or excluding a diagnosis of appendicitis, for in Cases 2, 10, and 11 the spot of greatest tenderness was quite a little above that point. Pain radiating to or from the loin or liver is also of value in excluding appendicitis, for, though lumbar pain has occasionally been noticed, I doubt if in a great percentage of appendiceal disease the pain radiates in any other direction than toward the navel. We see here also that, other things being equal, the point of greatest tenderness is the point for incision, even when the diagnosis seems reasonably certain.

Cases 11 and 9 illustrate, respectively in a negative and positive way, the value of not allowing theoretic ideas to divert the surgeon's approach to the point of difficulty from a route manifestly in accordance with common sense, to one based on a preconceived theory of diagnosis.

Case 12.—This was a man of 50, with a very large round tumor under the left ribs, extending downward into the loin and abdomen, and pushing the colon toward the median line. The progressive emaciation and cachexia pointed to trouble of a serious nature, but diagnosis was withheld until an exploration was made through the abdomen. On reaching the growth it appeared to be the spleen. The wound was closed without proceeding farther and the patient presently went home no worse than before, taking treatment for splenic enlargement. After some months he returned for operative relief, requesting removal of the offending spleen, which was undertaken after advising him that his chances were small for recovery. An incision was again made across the peritoneum, and the tumor was found to be a carcinoma of the kidney which had attached itself to the spleen and had dragged that organ below its normal location. The kidney was removed.

This case did not occur in my practice, but it is so remarkable, and illustrates so perfectly the unusual distortion of normal relations which occur in renal tumors, that I add it to my list. Roberts[4] describes a similar example of misplaced relations, the recollection of which led me into an error in locating the spleen in Case 14.

Case 13.—E. C., aged 47, traveling man, temperate, always healthy until February, when he commenced to emaciate and suffer with pain in right side near twelfth rib. In April a tumor which seemed to be the focus of the pain appeared behind the colon and at outer edge of quadratus lumborum muscle. In May he came under my care after having been in bed for several weeks. He was sallow but not jaundiced, had lost forty pounds; there was an evening temperature of 100.5, no chills, no night sweats, no cough, bowels were open and tongue moist; the urine was loaded with urates, but contained no albumin, peptones, or organic elements; blood examination showed no increase of leucocytes. Spleen was not enlarged. The liver seemed to be enlarged upward, dulness reaching to within an inch of nipple and no lung sound below that line. The liver dulness extended higher posteriorly also, reaching to seventh interspace, and the lung sounds were not clear below that line. Change of position produced no change in the line of dulness, and an exploratory puncture withdrew no fluid. Below the liver and behind the colon a hard tumor had pushed itself into the flank between the twelfth rib and the iliac crest. It occupied a space about three inches in diameter, was irregular in outline, and seemed slightly movable, though not with respiration. It was not so tender but that it could be handled to test its mobility; it was continuous with the lower and posterior outline of the liver, but also lay on the quadratus in the kidney region. The temptation to make a diagnosis of malignant growth, with the patient's age and cachexia as a basis, was a strong one—in fact the patient had been told that he had a cancer of the kidneys. Granting malignancy, however, there seemed no good reason why the liver might not have originated the growth from its dorsal border. But the lack of jaundice and indigestion, and the absence of blood and organic material in the urine, looked away somewhat from cancer of liver or kidney. The temperature, tenderness, and febrile urine pointed toward inflammation, at least as a complicating factor in the problem; but the normal blood-finding and absence of peptonuria negatived the idea of an abscess. It would appear in this case that the diagnosis should lie between an inflamed malignant growth of either kidney or liver, and an inflamed gall-bladder with omental adhesions possibly concealing an abscess. In the absence of convincing proof of the existence of any of these conditions the patient was informed frankly of the dilemma and advised to submit to an exploratory operation. He consented, and an incision parallel to the quadratus was made directly over the tumor. On reaching the deep fat, evidences of inflammation appeared, and on pushing forward the peritoneum to separate the tumor there was a gush of thick material made up of fibrin, blood-clots and pus to the extent of eight ounces. On introducing several fingers into the sac the liver and peritoneum were found to lie anteriorly and the kidney and diaphragm posteriorly. The fluid continuing to flow after the sac was evacuated, the index finger traced the discharge to an opening beneath the ligamentum arcuatum externum of the diaphragm. Through this, access was had to the pleural cavity, and by the same route between one and two pints of the same thick fluid was presently evacuated. A microscopic examination of the material showed it to be made up of old blood, fibrin, unrecognizable shreds and a few pus-cells. Two drains were introduced, one into the abdominal sac, which had collapsed as soon as it was emptied, and another under the *ligamentum arcuatum* externum into the chest. The patient made a good recovery, although he hiccoughed a great deal, I think on account of the pressure of the tube passing through the diaphragm.

During his convalescence he stated that in January he fell from a chair on which he was standing to light the gas, and struck his side against the chair-back. He paid little attention to the injury, the pain disappeared in a few days and the circumstance passed out of his memory.

Cases 2 and 13 illustrate exquisitely the fact that many men of sturdy constitutions often sustain serious injuries which they presently forget in the stress of business and other activities; after a lapse of time disease appears, insidious in its course and mysterious in its manifestations, because the real cause has been put aside as inconsequent and forgotten.[5] Such cases—most of them with a strong elementary foundation, I think, in passive inflammations occuring in slight and neglected traumas—usually prove enigmas, impossible jumbles without any correct key available prior to operation, but clear and consecutive enough when looked back upon as completed pictures.

Case 14.—Mary M., aged 24 months, very hearty and happy—in fact, a little over-nourished. There were no pathological changes in the urine, no hematuria, no pain in the side, even on freely handling a tumor which protruded noticeably into the left loin, apparently coming from behind and above. The lump was smooth but somewhat irregular, and proved on rectal insufflation of air to lie behind but intimately associated with the colon. The latter structure seemed to run in a kind of groove on the tumor. The spleen was not to be made out in its normal location. The tumor could be shifted in all directions, though swinging from a central point near the normal location of the kidney. Manipulation was made the easier by a smaller lump, the size and shape of a small apple, which projected from the lower pole. The growth was an irregular sphere averaging about three inches in diameter, and we took it for a renal sarcoma which had contracted attachments to the spleen, carrying the latter below and to the outside of its normal position. The colon was thought to lie in the groove, partially separating the two organs. In support of this view a case of cancer in a man aged 44, cited and diagramed by Roberts, was recalled, in which the spleen, usually pushed by renal growths well up under the diaphragm, was carried downward toward the iliac fossa in front of the mass.

It was decided to make an exploratory operation, to be followed by more radical measures should they seem to be justified. The loin was opened by an incision from the twelfth rib to one-half inch above the iliac crest and parallel to the outer border of the quadratus. This incision was afterward continued forward nearly to the rectus, dividing everything down to the peritoneum. That structure was not divided, but together with the colon and much subperitoneal fat, was held back by sponges. On reaching the kidney the following observations were made: 1. It was *non-adherent to anything*, being held merely by its own normal pedicle; 2. the spleen was in its usual location and not in any way attached to the kidney; 3, the small lump was the lower pole of the organ, and not yet involved in the tumor which had developed in the upper part of the capsule; 4, the growth had pushed the kidney over so that the pelvis lay in front and to the outside; 5, the incision was ample for purposes of removal. Accordingly, the mass was peeled away with the fingers from the peritoneum in front and the lumbar muscles behind, without encountering hemorrhage, adhesions or other difficulties, and by depressing the edges of the wound, it could be brought entirely out of the incision without traction on the pedicle. Two long-bladed forceps clamped the pedicle, overlapping each other from above and below. The tumor was then removed and the pedicle tied with silk, the ends being left long and hanging from the wound. No especial effort was made to isolate the ureter from the vessels, and a small portion of the pelvis distal to the ligature was left in the wound. I could find no glandular metastasis. Astonishingly little hemorrhage taking place, the cavity was packed and drained, and the extensive muscle and skin incision was brought together by catgut and silkworm sutures. There were no complications except a temperature developing on the third day after removing the drainage tube; on returning the tube the temperature fell, about an ounce of thin purulent fluid escaping which had probably been infected from the stump of the ureter. Eight weeks after the operation the silk ligatures came away and the wound closed immediately thereafter. The patient is in excellent health and shows neither cachexia nor emaciation; the abdomen is larger than it was prior to the operation the bowel appearing to have lost some of its tonic contraction, but a tight binder is reducing the protrusion. The kidney and tumor weighed about eighteen ounces, and a report of the pathological examination made by Mr. Ready, of St. Luke's Hospital is appended.

Six months after the nephrectomy, this patient was brought back to me with a recurrence of the growth at the site of the original operation. The recurrent tumor is considerably larger than the original growth, and so diffuse as to be inoperable. She is now under treatment with mixed toxins.

In analyzing this case several points of interest are developed: 1, the diagnosis of organs involved and the kind of tumor; 2, elements entering into the choice of operation; 3, What were the errors in the operative technique?

A tumor appearing in the left loin of a fat and healthy child of 2 years could hardly be anything but a sarcoma—syphilis of the spleen, tabes mesenterica, retained feces, or congenital cysts, need hardly be considered. Hydronephrosis rarely produces a lobed tumor, nor did the growth fluctuate in size. The absence of history of trauma, as well as the age of the child, pointed toward a congenital growth. So, also, its painless and non-inflammatory development—without adhesions—occurred almost as smoothly and quietly as in the normal evolution of a normal organ. That the kidney should have turned halfway round on its long axis, between the peritoneum and the loin muscles, and neither have contracted adhesions nor have produced trouble through traction on the vessels, etc., in the pedicle, is certainly a remarkable evidence of the plastic character of infantile structures. The fact that this tumor is within its own capsule as well as within that of the kidney, and that the kidney tissue around and below it was still healthy and evidently performing its function, points toward the retention of fetal, but unhomologous elements within the kidney stroma as the starting point of the growth. I am disposed to regard it therefore as arising from the pronephros as described by Grawitz and Klebs,[8] although Mr. Ready describes it as an adenosarcoma, without referring to its origin. A curious fact is noted by König[9] that these sarcomas are much commoner in girls than in boys. As to a diagnosis of the organs involved, this also appeared easy, for the tumor had not yet attained sufficient size to push the colon toward the median line, and away from its normal relations to the kidney. To call the smaller lump the spleen, however, was hardly excusable, for a moment's thought would have shown, that so freely movable and uninflamed a growth could never have contracted adhesions to the spleen sufficient to drag it halfway down the abdominal cavity and around the splenic flexure of the colon. Such dislocations of the spleen are rare and, as in Case 12, and in Roberts' case, cited above, occur only in older persons with carcinoma of growth slow enough to produce intercurrent inflammations with resulting adhesions.

The comparatively small size of the tumor and its early recognition afforded ample justification for its removal. This growth weighed about one pound. König[10] has removed some of enormous size, weighing up to ten pounds, without immediate death. Nevertheless, the immediate mortality in nephrectomy for tumor is appallingly high, both König and J. W. White quoting Sigrist's statistics of 64 operations with 32 deaths attributable to the operation alone. Of these 64 patients only 5 were alive at the end of two years, and but one of Kronlein's series of 5 cases lived four years in good health.

As to the choice of operations, I believe the lumbar route by Konig's[11] long-curved incision, with the operation field lying entirely outside of the peritoneum, was the best in this case. Jacobson[12] also prefers this incision where tumors are of moderate size and without dense adhesions.[13] He concludes that the König incision is the one of election in all those cases where the peritoneum can be pushed to one side and the tumor is not too large for a loin incision. As showing the statistical argument for and against both methods, König[14] gives the following for what they are worth:[15] Immediate death after transperitoneal incisions 58 per cent.; immediate death after extraperitoneal incisions 24 per cent.; recorded recurrence among survivors of transperitoneal incisions 5 per cent.; recorded recurrence among survivors of extraperitoneal incisions 41 per cent. König, therefore, thinks it an error in the interest of radical work not at least to consider the transperitoneal route. J. W. White, also, thinks that with large tumors and more modern asepsis the transperitoneal operation is slowly gaining ground.[16]

Let us now seek, briefly, to summarize the errors with which the foregoing fourteen cases appear to have been fraught. Roughly classified, the miscarriages appear to have resulted from a violation of one or more of the following principles:

1. The surgeon should not attach too great weight to the recollections or the subjective symptoms of the patient, unless borne out by the physical signs. Thus the tale told by the patient with corset liver —Case 8— that her "tumor" appeared during the previous year must have been a fabrication, though she herself may also have believed it. In like manner the ill-starred schoolmaster went to his fate because his surgeon, in the absence of objective manifestations, did not cultivate a wise and conservative skepticism of the patient's ability to make his own diagnosis.

2. On the other hand, due weight should be given to statements made by intelligent patients, especially in cases where the objective testimony is abundant, but confusingly contradictory. Every legitimate opportunity should be offered the patient to establish a sequence of disease. Careless history-taking is responsible for more than a little obliquity of diagnosis. Thus, in the gathering and arrangement of minute and seemingly inconsequential facts, the two cases of traumatic abscess (2 and 13) might have been spared a good deal of perilous delay, and the surgeon a good deal of humiliating mystification, had the relations between trauma and tumor been sufficiently indicated in the history.

3. It is an error in pathologic conditions to place too great reliance on relations normal to the healthy individual. It is probable that exaggerated stress has recently been laid especially on certain normal relations of the colon, and that numerous absolute and exclusive diagnoses have been based on supposed correlations between tumor and colon, which were hardly borne out by subsequent operative revelations. (See Cases 8 and 9.) No diagnosis of tumor or structure is complete until consideration has been given to the possibility of the encroachment by organs or growths on the normal

sites of organs which *prima facie* evidence would lead us to believe to be the ones involved. In this connection, it is interesting to observe how easy it is to regard as pathognomonic certain signs happening to be much discussed in current literature (Case 8), and also how easy it is to think two cases identical because they happen to bear a certain superficial resemblance (Case 14).

4. It is an error, even in the presence of conditions which seem pathognomonic, to neglect every diagnostic resource, and to follow up each resource faithfully to its logical conclusion. Thus, in Case 2, the blood and pus in the urine, and the valuable deductions to be made therefrom, were ignored; in Case 3 the urine was probably not filtered, and a diagnosis of Bright's disease was made on the mere existence of albuminuria; in the same case, although a skiagraph was taken, the plate was so placed as to fail in taking the entire urinary tract, and a stone was, probably on that account, overlooked. In Case 5 a skiagraph was entirely omitted and no stone was found. It is difficult, at the present time, to justify a nephrotomy, undertaken for the avowed purpose of removing a calculus, where a preliminary skiagraph has not been prepared. Although it is contended that pure uric-acid calculi fail to give a shadow, this is hardly at present a matter of sufficient demonstration to warrant such an omission in every case of suspected calculus. The negative testimony afforded by the absence of shadow may lead to a revision of diagnosis and treatment not particularly productive of glory to the operator, but often of incalculable benefit to the patient.

In this connection it may be well said that no class of cases more than these calls for such careful and persistent observation of the physical signs, and the hourly record of temperature, urine, etc. Thus, in Cases 5 and 14 the temperature chart revealed abscesses, which might have proved fatal in the absence of the record and deductions based thereon. In Case 13 a more careful working-out of the physical signs might have pointed even prior to the operation to a subphrenic abscess.

5. Among operative errors, may be noted the failure to properly care for the ureter in Cases 5 and 14. The ureter should be ligated with catgut and brought separately into the wound after cauterizing with carbolic acid; or, better still, should be inverted a short distance and stitched. Kidney stumps should not be ligated with silk (Case 14). Too deep incisions into the kidney structures are dangerous and jeopardize the subsequent integrity of the pelvis and ureter (Case 7). The kidney and the operation wound should not be closed primarily after nephrotomies. Drainage for a few days, at least, is much safer and may save a subsequent nephrectomy. (Case 5.) A kidney which is riddled with sinuses is best removed; conservative measures only lead to another operation. (Case 2.) It is an error to base an incision on any preconceived idea of diagnosis. Rather follow Tait's rule that "the kidney is best reached by the most likely-looking route." (Cases 9, 10, 11 and 13.)

NOTES AND REFERENCES.

1. Jacobson: Operations of Surgery, 3d ed., p. 714.
2. Loc cit., pp. 715-716.
3. Chicago Medical Recorder, 1899. Also Century Dictionary: "Surgical Kidney is a term somewhat loosely applied to chronic nephritic conditions arising from trouble farther down in the urinary tract, but especially to pyonephrosis arising from a cystitis."
4. *Roberts*: Urinary and Renal Diseases, 4th ed., p. 525.
5. An interesting consideration of this class of cases is found in Paget's Studies from Old Case Books under the title "Obscure Cases of Caries of the Spine." He calls them "quiet diseases."
6. Roberts: Loc. cit.
7. Extirpated kidney, weighing 12½ oz., measuring 4x3½x3x2½ inches. Macroscopical examination: Both poles and a portion near the hylus show normal kidney substance; the remainder is occupied by a bulging tumor mass; near the lower pole the tumor extends 2½ inches above the niveau of the external surface. Section shows a soft growth measuring 3½x3x2 inches, extending from the capsule of the kidney (near the lower pole), and bulging into the pelvis. The tumor shows in places a tense fibrous capsule, from which it can be separated with some difficulty. The portion projecting above the niveau of the kidney is covered only by kidney capsule. Microscopical examination: Sections show epithelial cells traversed by bands of connective tissue, and without any characteristic arrangement. There are also large masses of cuboidal epithelial cells in groups of tubules, especially well marked in sections taken from the center of the growth. Near the periphery these neoplastic acini and tubules almost disappear. The tumor is quite vascular and hemorrhagic. Diagnosis: Adenosarcoma.
8. König: Spec. Chir., ii, 635.
9. Loc. cit., p. 636.
10. Loc. cit., p. 636.
11. Loc. cit., p. 654.
12. Jacobson: p. 753.
13. In this view he is opposed by K. Thornton, and an interesting analysis of the arguments for and against the intraperitoneal and extraperitoneal approaches to the kidney and its tumors found on pages 737 and 764 loc. cit.
14. König: p. 638.
15. These statistics are fundamentally deceptive and König himself warns against basing any deductions on them. The reason is quite obvious.
16. Dennis: Syst. of Surg., iii, p. 475.

DISCUSSION.

Dr. J. E. Owens—I have but little to say about this valuable paper. It reminds me, however, that long since diagnosis was defined to be the "science of probabilities." The cases reported are certainly very interesting and instructive. The paper, being a report of a series of cases in which errors are more or less mingled, is more useful than a report of a series of successes. I have always thought a carefully-prepared paper on deaths after operations well worthy of the consideration of any society, particularly of a surgical society; and likewise a paper on errors of diagnosis and unexpected aberrations encountered in operative surgery. But how rarely are such papers presented. It is very natural for us, even the older members of the profession, to report successes, leaving the less fortunate cases as silent teachers for ourselves. It will stimulate us to be more fearless in relating some of the complicated problems met with in practice.

I have failed with the needle to find stone. No further operative steps were taken in these cases as a promise was exacted beforehand, that if we did not find a stone we should not operate. Many times since the period I am about to speak of, I have asked patients "Were you drunk?" This was suggested to me by one of my cases. A saloon-keeper sent for me one night on account of a severe sticking, or lancinating pain in his side. He said he had not been hurt, and that he knew of no reason for his trouble. I put my ear to his chest and discovered a friction sound, so I said, "Put a blister upon the part complained of and I shall call again." Two days later the patient said, "You are not in it. I had the pain so badly I sent for another doctor and he fumbled about my chest and found a broken rib." "How did you get a broken rib, as you said you were not injured?" "I will tell you; I was very drunk and the folks told me a man said he could throw me, and he did."

Loin pain in appendicitis is often very severe. I had an attack of appendicitis some years ago and experienced intense pain far back in the loin, as well as in the appendiceal region. Other such cases have come to my notice. The use of silk in such operations is not desirable. It will almost certainly come out or give trouble sooner or later. I have had it do so in nephrectomies, and in other operations. I remember well an operation for a large venous varix extending from the armpit to the crest of the ilium. Seventy-five to one hundred silk ligatures were employed. During the following five or six months many of them came away or had to be removed.

Dr. D. A. K. Steele—I quite concur in the suggestion of the President that if we could have a society of surgical and medical pessimists it would be a good thing. I believe there is such a body in London, where no fellow is allowed to report his successful cases, only his failures. We might once in a year or two have such a meeting with profit.

Some of these cases remind me of a personal experience along the same lines where a subdiaphragmatic right abscess was overlooked and mistaken for disease of the kidney. Two such have fallen under my observation. In neither was there a history of preceding injury, although undoubtedly an injury may have been precedent. The question whether the patient had been intoxicated was not asked. One of these cases was in the service of another physician and I was present at the operation. The kidney was incised under the impression that it contained a stone. It was explored with a needle and unnecessarily handled, and just before the kidney was closed up the abscess was accidentally discovered and drained, but the patient did not recover.

One of the cases reported by Dr. Allport, No. 12, seemed to me incomplete, because he did not tell us what became of the patient. A case of interest in this connection came under my observation three years ago, a colored man, 56 years of age, who had been under the care of Dr. Quine for some weeks for persistent pain in the region of the right kidney. He examined him, treated him for some weeks and made a diagnosis of stone in the kidney. I saw the case in consultation, and he was subsequently placed under my care at Wesley Hospital with the request that I operate. I do not know why, but I had an idea there was some mistake in the diagnosis; the operation was fixed for two different days and postponed by me on account of doubt as to the propriety of operating, and then I asked Dr. Danforth to see the case. He said the symptoms pointed to stone in the kidney and it was a case for operation. This was Saturday, and I said we will operate Monday. I called to see the patient Sunday; he had eaten a hearty dinner and was laughing and joking, when he suddenly complained of feeling faint, said, "I cannot see anything" and fell back on the bed; in ten minutes he was dead. I made the post-mortem examination and found that he had a ruptured aneurysm that was overlooked. Fortunately for me I postponed the operation until nature ended his life; had I operated we would have had a death on the table. The kidney was normal, but displaced by the aneurysm behind it; there was only a quart of blood behind the kidney. It was an aneurysm of the renal artery. There is another class of cases, two of which I have under observation now, and have had during the past year, in which there are classical symptoms of stone in the kidney, in which I have declined to operate because the skiagraph fails to show the presence of the kidney stone. For the last year I have availed myself of this aid to science in diagnosing stones, and not finding them in the skiagraph I decline to make a positive diagnosis.

Dr. L. L. McArthur—In the series of cases reported by Dr. Allport, reference is made to the appearance of a few blood-corpuscles and pus-corpuscles in the urine, and yet the case was suspected to be appendicitic. Although there has not yet been any paper written calling attention to this fact, it is nevertheless a fact that blood-corpuscles in quite liberal number, and even albumin accompanying them sufficient to give a nitric-acid reaction, will be present in a certain small percentage of cases of appendicitis. I have had four cases in which it was difficult to decide whether it was renal colic or appendicular colic, and still more difficult after a microscopic examination and finding blood. In two cases in which the temperature seemed to be out of all proportion for renal colic, operation was had and gangrenous appendicitis was found, although bloody urine, vesical tenesmus, and albumin were found in the urine, and those symptoms which go with renal colic were present.

As to skiagraphs of stone in the kidney, I presented a paper before the Chicago Medical Society with skiagraphs of all varieties of renal stones, and at that time called attention to the fact that we must not look for a distinct shadow from renal calculi of organic origin. For instance, uric-acid calculi are probably the most frequent of all calculi, amounting to nearly 89 per cent. Uric-acid stones cast almost no shadow on the plate itself and how much less when it is to be observed through the body.

I returned to the city this evening from a case to which I was called at Columbus, Wis., that had been under the observation of three doctors for three years—a woman 58 years of age, the mother of a large family, who for three years has been complaining of obscure pains in the right loin. She had some yellowness of the skin and presented a tumor movable in respiration in the right loin in the neighborhood of the kidney. I was called to see the case because it was supposed to be a tumor of the kidney. Uranalysis was negative. On examining the case this morning a tumor was very distinctly to be palpated, which moved with respiration, and by bimanual palpation moved backward and forward as well as up and down, but the colon had not been inflated. So I inflated that and found the tumor lying anterior to the colon. That, taken with the fact that the colon was very distinctly palpable and the patient was icteric, led me to believe that it was a tumor of the liver or distension of the gall-bladder. I made a diagnosis of tumor of the liver, probably ecchinococcus and not malignant, because the patient had not emaciated. An exploratory incision was advised and enlargement of the incision to remove the trouble if found feasible. A small incision was made to the outer margin of the rectus and a corset liver found, a lobular elongation shaped like the kidney. The kidney was perfect, distinctly palpable behind it, of infantile size, nothing in the pelvis and the gall-bladder very small. Nothing was to be found in the neighborhood of the ileum, or pancreas. Such mistakes can be made as Dr. Allport describes in his paper without any reflection being cast on the surgeon. At one of the meetings of the British Medical Society, for a presidential address, Paget read a paper entitled "Necessary Errors in Diagnosis." A logical conclusion can not but be drawn from the premises furnished, sometimes the premises are false and therefore your conclusions false. Jacobson says, any operation which justifies exposing the kidney for handling also justifies the exploration of that kidney with the finger. I think it extremely difficult, even with the finger, to find a stone; I know they are overlooked, I have done it myself; how much more difficult is it with the needle! I chanced to be present at the operation on the 14th case reported by Dr. Allport, and as he was about to amputate his ligatures I suggested that he leave one long so as to extend out of the wound. I think that extremely wise, because they do suppurate frequently. If you have an end, you can take hold of it and you can get them out by a small amount of continuous elastic traction.

Dr. D. N. Eisendrath—Case No. 1 seemed to come under the class of hysterical pains which are so frequently met in viscera, the stomach, spleen and kidney; they come under the head, in this case, of nephralgias. The second case was one of hematuria, without apparent cause until afterward trauma was found. I was interested because there are so many cases of hematuria without apparent cause which are due to tuberculosis. I read a report of a case in a German journal of very severe hematuria coming on suddenly in a patient without tubercular history, but operation showed typical tuberculosis of the kidney.

The case on which I did nephrectomy during the absence of Dr. McArthur from the city, in 1898, was undoubtedly a surgical kidney; it was an ascending pyelonephritis, and was hardly of the variety in which infection could have taken place except from the bladder upward. It is not likely that infection at the time of operation would have caused this form of infection of the kidney, which most frequently ascends from the bladder, passing upward through the ureter. Weir reports four cases in which surgical kidney was strictly unilateral, so I think the infection came from the bladder, and not from the previous operation.

Painful Limping from Uteropathy.—De Luca writes to the *Riforma Medica* of February 7, describing three cases of lameness in women, owing to severe pains that appeared at the first steps or after walking a certain length of time. The pains affected the various groups of muscles in the lower members, and disappeared when the patient sat or reclined. The hobbling gait was traced to the influence of displacement of the uterus, retroversion, lateroversion or prolapse with anteroversion. Alexander's operation in one case cured the limping and pains at once. In the others there was no operation performed.

THE RELATION OF INDICANURIA AND OXALURIA TO GASTRO-INTESTINAL FERMENTATION.

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The object of treating such a large subject in one article is, if possible, to determine if there is a relationship between the excreted indican and oxalic acid, and the bearing these bodies have on gastro-intestinal fermentations. Harnack[1] has shown most conclusively that when oxalic and sulphuric acids are given to dogs per stomach or per os, indicanuria is produced, the sulphuric acid producing not so intense an indican reaction as when oxalic acid is used. He further shows that the subcutaneous injection of even .06 gram of sodium oxalate is followed by indicanuria. He raises the question whether indicanuria is associated with pathologic oxaluria. This is one of the questions which I have tried to solve. The putrefactive bases are formed in the small intestines and are known as indol, skatol and phenol. They are also often spoken of as the aromatic compounds. By the action of the pancreatic juice the proteids are changed into alkali, albumin, proteoses, pepton, leucin and tyrosin. The proteoses are still further broken down by the action of bacteria, the aromatic bodies being some of the products formed. These are absorbed and changed into the potassium sulphate salts, indican being the postcedent of indol. Jaffe[2] has pointed out that the amount of indican is relatively proportionate to the degree of putrefaction. Diet is an important factor in the production of indican. It seems that a vegetable diet does not produce these aromatics. Rosin[3] found the urine of rabbits to be free of indican. Hoppe-Zeyler[4] and Peurosch[5] showed that in order to produce indicanuria in these animals it was necessary to feed them either orthonitrophenol proprionic acid, or give them meat. As yet it has not been positively demonstrated that indican is produced anywhere in the body except in the intestinal canal.

Harnack,[1] however, believes that the indicanuria following the subcutaneous injection of small doses of sodium oxalate can only be accounted for as being of metabolic origin. He argues that as oxalic acid is a severe protoplasmic poison, its action would produce such changes in the living tissue as might lead to indican formation.

To support this view, Nencki[6] and Kühne[7] produced the aromatic bodies by heating proteids with potassium hydrate. Salkowski[8] and Jaksch[9] believe that indol can be formed in the tissues by the abnormal decomposition of this. Keilmann[10] believes that he demonstrated that in pus formation indican is produced. This would be entirely independent of intestinal origin. Rosenbach,[11] Senator[12] and Concetti[13] think indicanuria is found in many diseases, especially of children, in whom it is not of intestinal origin, but due to decomposition of proteids in the living tissue or to changes in the tissues themselves. Senator,[12] Rosenbach[11] and Mazetti[14] found that the urines of new-born infants do not contain indican during the first year or so. In cholera infantum and in tuberculosis it was always present. Momidkowski[15] finds indican in infants before they begin to nurse; after that it disappears.

I will show later that the milk is probably the important factor in the prevention of putrefaction in the intestine. It seems, from the literature, that when indican is found in the urine of infants, it always denotes some grave intestinal disorder. Against this view of indican formation, outside of the intestinal tract, is Beckmann.[16] He examined twenty-five cases suffering from suppuration and found an increase of indican in only six of the total number. Müller[17] says the indicanuria of inanition can only be considered as of intestinal origin.

We can readily understand how in cystitis incited by the colon bacillus and proteus vulgaris indican could be formed in the bladder. In 116 sweat analyses made for Dr. Hoelscher I was able to demonstrate indican in a very few. This does not prove that the indican thus found was not produced in the intestine, nor that it may not have been formed in the pores of the skin by the action of bacteria living on the proteids of the sweat itself.

The presence of oxalic acid in the urine was first demonstrated by Wollaston,[18] and later verified by Fourcroy.[19]. The constant elimination was demonstrated by C. G. Lehman, [20] W. Kühne,[21] Schultzen[22] and Fürbringer.[23] The amount excreted daily is as yet unknown. Schultzen[22] gives it as .05 gram; Fürbringer,[23] .02 gram; Dunlop,[24] .017 gram, and Baldwin,[25] as being less than .01 gram. The last three figures are probably nearer correct than the first. It was not until Dunlop's[24] method was used that anything like correct and concordant results were obtained. This is readily understood when one considers that the amount being so small any slight error in the analysis would ruin the final deductions absolutely. Dunlop[24] believes that the small amount of oxalic acid eliminated daily is taken in with the food, and therefore is not produced in the body.

Gaglio,[26] from his experiments, concludes that oxalic acid is not readily oxidized in the body. Wesley Mills,[27] in his experiments, later verified by H. Lüthje,[28] came to the conclusion that oxalic acid does not disappear from the urine of starving dogs, and when meat alone is given the amount excreted is increased very materially. From these facts they conclude that oxalic acid is one of the end products of proteid metabolism. Helen Baldwin,[25] feeding dogs on meat, was able to stop the oxalic acid elimination absolutely, and Dunlop[24] demonstrated that a milk diet would do the same. Wöhler[29] and Frerick[30] believe oxalic acid to be an oxidation product of uric acid. Neubauer,[31] Salkowski,[32] Fürbringer[23] and Hammerbacher,[33] feeding uric acid to dogs, were unable to produce an increase in oxalic acid. Salkowski[32] found that a diet of thymus gland did not increase it. Prout[34] and Schultzen[21] found oxaluria associated with diabetes and icterus. It may be of interest to state here that Salkowski[32] has recently shown that 1000 grams of cow's liver contained .012 gram of oxalic acid. Reale[35] and Boeri[36] believe that oxalic acid is produced in the organism when there is imperfect aeration of the tissue. Aside from the above statement, there are some cases, according to Smoler,[37] Cantani[38] and Hass,[39] where there was noticed an abnormal increase in oxalic acid excretion without any other prominent symptom. This excess formation probably was due to an abnormal metabolism.

Table No. 1 gives a series of twenty urines, most of them containing indican and oxalate crystals. The total acidity and alkalinity are given here, with the object, if possible, of determining the cause of the precipitation of oxalate of lime crystals. The total acidity was determined by using a decinormal sodium hydrate solution, phenolphthalein being used as an indicator. The results thus obtained were figured as total hydrochloric acid. The total alkalinity was determined by using a decinormal hydrochloric acid solution, dimethylamidoazobenzol being used as an indicator. The results were figured to sodium hydrate. At a glance it is seen that the precipitation is not due to acid strength, nor to alkaline strength. Neubauer[30] and Dunlop[23] both believe that sodium acid phosphate and possibly other substances prevent precipitation. Especially is this true of urines with high acidity. My work, and also that of Baldwin,[25] shows that high acidity does not prevent precipitation. Moddermann[42] believes precipitation occurs when the sodium acid phosphate changes to the neutral or alkaline phosphate. The precipitation is not understood; concentration, high or low specific gravity, acidity, alkalinity, neutral reaction, none of these explain the precipitation. Dunlop[23] says that oxalates are only found in the urine as octahedron crystals, and that the dumb-bell forms are calcium carbonates. I find that several forms of oxalate crystals are produced from pure calcium oxalate. Besides the octahedron variety, there are also dumb-bell and prismatic forms. This agrees with the work of Salkowski[43] and Baldwin.[25]

Table No. 1.

Number.	Reaction.	Specific Gravity.	Urea; per cent.	Indican.	Oxalates (500 x diam.).	Acidity for 1000 c.c. as HCl.	Alkalinity for 1000 c.c. as UaOH.
1	Acid. .	1025	3 4	Absent .	Absent	1.387	.68
2	“	1027	2.5	Faint. . .	1 to field	.749	3.2
3	“ . . .	1026	1.7	Fair. . .	1 to field.	1 715	1.56
4	“	1014	1 4	Faint. . .	3 to field.	1.825	1.4
5	“ , . .	1019	2.2	“ . .	6 to field.	.876	.88
6	“	1025	3.2	“	20 to field	1.35	1.28
7	“ , . . .	. . .	. .	Absent .	1 to 10 fields	2.37	1.6
8	“ , . . .	1024	2.2	“ .	8 to field	803	1.8
9	“	1027	3.3	Faint. . .	10 to field	1 314	.76
10	“	. . .	. .	Absent .	8 to field.	1.659	1.6
11	“ . . .	1031	3.3	Heavy. .	1 to 3 fields	1 825	2.32
12	“ . . .	1029	3.0	Faint. . .	20 to field	2.37	1 68
13	“	1026	1.9	Fair. . .	10 to field	1.13	2.
14	Neutral . .	1028	2.8	Faint. . .	3 to field.	.13	2.6
15	“ .	1013	1.5	“ . .	2 to field	.29	2.
16	“ . .	1022	1.8	Heavy. .	20 to field	438	3.
17	Acid. . . .	1028	2 6	Faint. . .	10 to field	1 277	1.44
18	“	1020	1.9	Absent .	1 to 3 fields	.839	1.8
19	“	1009	0 9	“ .	Absent. . .	.4	1.2
20	“ . . .	1020	2.0	Faint. . .	Absent.	1.5	1.4

The percentages of urines showing oxalate crystals are variously estimated: Walsh[40] gives it as 28 per cent.; Gallois,[41] 36 per cent.; Smoler,[37] 57 per cent., and Dunlop,[23] 35 per cent. Of 2000 urine examinations made at the Columbus Medical Laboratory, Chicago, 22.5 per cent. contained oxalate crystals. Of 200 urines examined for indican, 50 per cent. showed more or less indican. Of 200 urines examined, 15 per cent. showed oxalate crystals and no indican.

Table No. 2 represents 100 indican urines, 85 per cent. of which contain more or less oxalate of lime crystals. In many of these, as, for example, Nos. 3, 6, 7 and 12, there seemed to be a definite ratio between the indican and oxalic acid, but excess of oxalate crystals does not signify increase in the total amount of oxalic acid, and I therefore decided to put this to a further test by estimating the total indican and oxalic acid. Harnack[1] has demonstrated that oxalic acid produces indicanuria. Might we not, therefore, believe that the formation of one is dependent on the other? If the above statement is correct oxalic acid may be an end product of proteid metabolism.

METHOD TO DETERMINE INDICAN.

The method used to determine the indican is that of Eyvin Wang.[44] Take 300 c.c. of urine and treat with 25 to 50 c.c. of a 20 per cent. solution of lead acetate,

Table No. 2.

Number.	Reaction.	Specific Gravity.	Urea; per cent.	Indican.	Oxalates.	Other Crystals.
1	Neut	1022	1.9	Heavy. .	Medium number . . .	Triple phosphates.
2	Acid.	1020	2 4	Faint. . .	Few.	Uric acid.
3	“	1030	2.8	Heavy .	Abundant.	“ “
4	“	1013			“	
5	“	1017			“ umber . . .	“ “
6	“	1028			. . . . . .	
7	“	1030			. . . .	
8	“	1015	1.9	“ .	Medium number . . .	Urates.
9	“	1024	1.5	Faint. . .	Absent	
10	“	1020	1.0	“ . .	Few.	
11	“	1020	2.8	“	“	“
12	“	1009	0.9	Heavy. .	Abundant.	“
13	“	1024	3.0	Faint. . .	Few.	“
14	“	1028	2.7	“ .	“	
15	“	1005	0 5	“ . .	Very few	“
16	“	1020	2 9	“ . .	Few.	
17	“	1020	2 0	Medium .	Medium uumber . . .	“
18	“	1008	0 7	Faint. . .	Few.	
19	“	1023	2.7	“ . .	“	Uric acid.
20	Neut.	1019	1.4	“ . .	“	Phosphates.
21	Acid.	1011	2 0	“ . .	“	
22	“	1020	1.9	“ . .	“	Calcium sulphate.
23	“	1016	2.1	Heavy .	Medium number . . .	Uric acid.
24	“	1017	1.8	Faint. . .	Few.	Urates.
25	“	1022	2.0	“ . .	Medium number . . .	
26	“	1029	3 3	Medium.	“ “ . . .	
27	“	1026	4.0	Heavy .	Absent	Urates and uric acid.
28	“	1020	1 8	Medium	Few.	Urates.
29	“	1016	1.8	Quite heavy	Abundant.	
30	“	1013	1 7	Faint. . .	Very few	
31	“	1027	2.8	Medium.	Few.	“
32	“	1020	2 8	“	Medium number . . .	“
33	“	1005	0 8	Trace. . .	Few.	“
34	“	1038	1.9	Medium.	“	
35	“	1015	1.8	“	“	Uric acid.
36	Neut.	1016	0.8	“	Absent	“ “
37	Acid.	1024	2.3	“	Medium.	
38	“	1017	2 2	“	Few.	
39	“	1016	1 4	Quite heavy	“	Urates.
40	“	1013	2 2	Medium.	Medium number . . .	
41	“	1023	2 8	Quite heavy	Abundant.	“
42	“	1021	3.2	Heavy. .	Medium number . . .	“
43	“	1031	3.1	“ . .	Abundant.	
44	“	1021	1 5	Trace. . .	Absent	
45	“	1020	2.2	Faint. . .	Few.	
46	“	1011	0 9	“ . .	“	
47	“	1019	2.5	Medium	“	Phosphates.
48	“	1017	1 8	“	“	
49	“	1011	0 8	Trace. . .	“	
50	“	1021	1 7	Quite heavy	Abundant.	
51	“	1027	2.2	Heavy. .	Absent	Urates.
52	“	1020	2.1	Faint. . .	Few.	
53	“	1026	2.4	“ . .	Very few	Uric acid.
54	“	1010	1.1	“ . .	Few.	Urates.
55	“	1012	1.2	“ . .	“	“
56	“	1008	0.9	Trace. . .	Absent	Calcium sulphate.
57	“	1017	2 4	Faint. . .	Few.	
58	“	1020	2.8	“ . .	“	Urates.
59	“	1016	1 4	“	Very few	
60	“	1016	2.5	Medium.	Medium number . . .	
61	“	1025	3.0	Heavy. .	Abundant.	Calcium sulphate.
62	“	1013	1.7	Trace. . .	Absent	Phosphates.
63	“	1013	1 5	Faint. . .	“	Urates.
64	Neut.	1015	2.0	Medium.	“	
65	Acid.	1019	1 8	Faint. . .	Medium number . . .	Triple phosphates.
66	“	1015	1.6	“ . .	Absent	
67	“	1036	2 1	“ . .	Medium number . . .	Urates.
68	“	1015	1 3	Fair amount	“ “	“
69	“	1016	1.5	Very faint	Absent	“
70	“	1027	1 8	Faint. . .	“	
71	“	1014	3.0	Very faint	“	
72	“	1026	2 4	Trace. . .	Very few	
73	“	1024	1.8	Faint. . .	Few	“
74	“	1019	1.5	Trace. . .	“	
75	“	1027	3 0	Veryf'int	“	“
76	“	1026	2 7	Faint. . .	Absent	“
77	“	1023	1.8	“ . .	Few.	
78	“	1025	2 7	“ . .	“	“
79	Neut.	1020	1 7	“ . .	“	“
80	Acid.	1030	2.2	Medium.	“	“
81	“	1008	2.7	Heavy	“	
82	“	1018	2.7	Veryf'int	Very few	“
83	“	1008	0 6	Faint. . .	Few.	
84	“	1010	2.1	Medium	“	“
85	“	1018	1.7	“	Absent	
86	“	1014	1.1	“	Few.	
87	“	1012	1 3	Faint. . .	Very few	“
88	Neut.	1012	1.4	“ . .	Few.	“
89	“	1018	1 2	“ . .	Absent	
90	Acid.	1025	2 6	Heavy. .	Few.	
91	“	1010	1.2	Faint. . .	Very few	
92	“	1018	1.3	Veryf'int	“ “	
93	“	1014	2 3	Faint. . .	Few.	Uric acid.
94	“	1026	1.7	Medium.	“	Urates.
95	“	1014	1.4	Faint. . .	“	“
96	“	1027	2 5	“	“	“
97	“	1019	2.2	“	“	“
98	“	1025	2.9	Medium.	Medium number . . .	“
99	“	1027	2.5	Faint. . .	Few.	“
100	“	1023	2.1	Heavy. .	Abundant.	“

or enough until no further precipitate is given. Filter. Take an aliquot portion of the filtrate and add to it an equal volume of Obermayer's reagent—1 gram of ferrichlorid to 1 liter of hydrochloric acid, specific gravity 119. Place the mixed solution in a separatory funnel and shake with chloroform until all the indigo is removed. The chloroform is then removed by distillation, the residue left washed with a mixture of equal parts of alcohol, ether and water. The washings are filtered through a dry filter-paper and the washing continued until the solution comes through clear. The indigo, which is in the flask and also on the filter-paper, is dried. The filter-paper is then placed in a solution of chloroform and boiled under an inverted condenser until all of the indigo is extracted. The chloroform indigo solution is then poured in the flask which contains the dried indigo and the chloroform removed by distillation. The residue in the flask is evaporated down to dryness and then treated with 4 c.c. of sulphuric acid and allowed to stand for one hour. The sulphuric acid is poured into 100 c.c. of distilled water, the flask thoroughly rinsed with warm water until all of the indigo has been transferred to the flask containing the water. The solution is now titrated with a standard solution of potassium permanganate—3 grams of potassium permanganate dissolved in 1 liter of water; 5 c.c. of this solution is diluted to 200 c.c. with distilled water; each cubic centimeter of this solution is equal to .00015 of indigo. Multiply the number of cubic centimeters of permanganate used by the above factor, and then figure out the indigo for the twenty-four hours' amount of urine.

I have found that this method gives very good results, and, furthermore, believe it to be more convenient and better adapted for clinical purposes than is the estimation of aromatic sulphates. As indican is one of the putrefactive bases, it is sufficient to determine the amount of this alone, and from the result an index of the total putrefaction can be obtained without paying any attention to the other putrefactive bodies.

METHOD TO DETERMINE OXALIC ACID.

The oxalic acid was estimated by Salkowski's[43] method, with slight modification. Instead of weighing the precipitate of calcium oxalate as calcium oxid, it was titrated with a centinormal solution of potassium permanganate. It was found that the two methods agree within three-tenths milligrams. Coloring matter was thoroughly removed by washing the dried precipitate of calcium oxalate with equal parts of alcohol, ether and water. There is always a slight color residue left on the filter-paper, the sulphuric acid dissolving so little of it that it is not worth while to consider. The titration method can be used in the presence of phosphates, and in several of these precipitates of calcium oxalate phosphates were present, in spite of the fact that acetic acid was used to dissolve them. Acetic acid even in weak solution has more or less solvent action on the calcium oxalate. This in itself, besides phosphate impurities, is very liable to give in some instances too high and in others too low results. Comparing the method with the older ones, I find that the results are much more satisfactory, and liability of error cut down to a minimum.

Modified Method.—Take 500 c.c. of urine, acidulate with a few drops of hydrochloric acid, boil over a free flame until the volume has been reduced two-thirds. Now acidulate with 20 c.c. of hydrochloric acid, specific gravity 1.12, and continue the evaporation on a water-bath down to a small volume. The residue is taken up with about 150 c.c. of water, the dish rinsed out with more water, all of which is placed in a separatory funnel and shaken three times with an alcoholic ether solution—nine parts of ether to one part of alcohol—using 200 c.c. of this mixture for each shaking. The ether is drawn off, filtered and removed by distillation, the alcohol solution left in the flask, treated with 15 c.c. of water, and the evaporation continued until all the alcohol is expelled. Should the solution be milky, add a little more water and continue the evaporation until clear. Filter and wash the residue on the filter part two times with distilled water. Add to the filtrate ammonium hydrate to a slight alkaline reaction, and then 1 or 2 c.c. of a 10 per cent. solution of calcium chlorid. This precipitates not only the oxalic acid, but also throws down the phosphates. The phosphates are redissolved by acidulating very faintly with acetic acid. The precipitate is allowed to stand twenty-four hours, then filter, wash and dry. After drying, wash with a solution of equal parts of alcohol, ether and water. The precipitate is dried again and then treated with 100 c.c. of a 3 per cent. solution of sulphuric acid. To this solution 5 c.c. more of sulphuric acid is added and the solution heated to 60 C. It is then titrated with a centinormal solution of potassium permanganate. Multiply the number of cubic centimeters of permanganate solution used by .00063, which gives the amount of oxalic acid in the 500 c.c. of urine used. From this the amount of oxalic acid in the twenty-four hours' urine is determined.

The results obtained from these analyses show most conclusively that there is not a relative ratio between the indican and oxalic acid excretion. (See Table No. 3.) It was thought that as sulphuric and oxalic acid, when given by stomach or per os, produces indicanuria, there might be a definite relationship between these two products. These results, however, do not by any means prove that the oxalic acid is not an end product of proteid metabolism, nor that it can not be produced from the decomposition of proteid matter in the intestinal canal. Oxalic acid thus produced may have been eliminated with the fecal matter, or if a large quantity of it were absorbed, it may have been oxidized. P. Marfori[45] believes that he could demonstrate that after taking several doses of oxalic acid part of it was oxidized. Baldwin[25] fed a healthy man on a diet of bread, butter and meat, giving him .2 to .48 gram of ammonium oxalate for a period of two weeks; only traces of oxalic acid appeared in the urine. A dog received the drug hypodermically, and 37 per cent. of it was recovered from the urine. Table No. 3 also shows that there is no relative ratio between the number of oxalate crystals and the total percentage of oxalic acid. Abundance of crystals does not signify high oxalic acid percentage.

Before discussing some of these cases it will be necessary to call again attention to Helen Baldwin's[25] excellent article on oxaluria. She was able to produce oxaluria in dogs by feeding them meat and large quantities of sugar. I give here one of the experiments:

> A dog was placed under observation on Nov. 3, 1899. At that time there was a small amount of oxalic acid present in the urine. The dog was placed on a meat diet, and the urine examined November 18, 21 and 25 showed an absence of oxalic acid. On the last-named date the dog was placed on large amounts of sugar in addition to meat. The animal took the sugar greedily, at times receiving 250 to 300 grams in a day. For a month the dog showed no symptoms, but gained rapidly in weight. On November 9 a few calcium oxalate crystals were noted in the urine, but only a few. From that date until

December 27 oxalic acid was absent from the urine, or, if present, was in very small amounts. In the latter part of December there appeared simultaneously a group of symptoms consisting of loss of appetite, vomiting of frothy mucus, intermittent diarrhea, the absence of free hydrochloric acid in the gastric juice, the presence of organic acids in the urine, and the precipitations of numerous large calcium oxalate crystals in the urine. On January 1 the dog took almost no sugar, and there were again but few calcium oxalate crystals deposited in the urine. On January 3 very large and very numerous crystals were noted, some appearing in masses of imperfectly formed crystal-like microscopic calculi.

TABLE NO. 3.

Case	Amount in 24 hrs cc	Sp. gr.	Reaction	Color	Urea	Albumen	Sugar	Casts	Crystals	Indican in grams	Oxalic acid in grams	Acidity as HCl	Alkalinity as NaOH	Remarks
I a	2150	1008	Acid	Pale yellow	7%	Absent	1%	Absent	Few oxalates	.0209	0402 Membrane	—	—	Meat diet, diabetes and chronic interstitial nephritis, Constipation, head-aches, uses cascara
I b	1580	1011	Acid	Pale yellow	9%	Trace	Absent	Absent	Few oxalates	.00414	.0167	—	—	Same patient Since first examination laxatives and saline waters, feels better
II	1750	1008	Acid	Pale yellow	9%	Absent	Absent	Absent	Calcium sulphate	00408	0098	—	—	Weak stomach, fits of depression, mixed diet, rich in spinach and vegetables, uses cascara
III	575	1027	Acid	Normal yellow	2.2%	Absent	Absent	Absent	Oxalates numerous	00714	0111	—	—	Aortic stenosis, broken compensation, unable to take much starchy food, because of gaseous distention of stomach, dull frontal headache, saline cathartics daily
IV	1025	1020	Acid	Normal yellow	2.1%	Absent	Absent	Few hyaline	Few oxalates	03677	0057	—	—	Dizziness, numbness, palpitation, bowels regular, mixed diet
V	[illegible]	1020	Acid	Normal yellow	2.8%	Absent	Absent	Hyaline and granular	Few oxalates	006	03817	—	-	Sinking spells, palpitation followed by numbness, cardiac neurosis; prolapsed stomach, milk diet for three days
VI	950	1013	Acid	Pale yellow	1.5%	Absent	Absent	Few hyaline	Absent	0046	0144	—	—	Congenital cardiac anomaly, symptoms of numbness and palpitation, slight indigestion, mixed diet
VII	940	1019	Acid	Normal yellow	1.8%	Absent	Absent	Few hyaline	Few oxalates	00405	0103	—	—	Chronic arterio sclerosis, cardiac changes, dull headaches, insomnia, desires to pass urine, mixed diet
VIII	1000	1012	Neutral	Pale yellow	1.4%	Absent	Absent	Absent	Few oxalates	00158	0075	434	92	Post cervical head-ache, mixed diet
IX	960	1018	Neutral	Pale yellow	1.2%	Absent	Absent	Hyaline and granular	Absent	00587	.00814	455	163	Arterio-sclerosis, palpitation, red meats excluded, eats sparingly of starches
X a	1320	1027	Acid	Normal yellow	1.8%	Absent	Absent	Absent	Absent	0036	01751	854	2.076	Nervousness, easily startled, vertigo after climbing to a height of 10,000 feet, moderate arterio-sclerosis, signs of strain of heart.
X b	2000	1009	Acid	Normal yellow	9%	Absent	Absent	Absent	Absent	Absent	0066	401	12	Same patient Since first examination cut down on meats, drinks much water and uses "Urotropin"
XI	900	1024	Acid	Normal yellow	2.3%	Absent	Absent	Absent	Oxalates numerous	0048	00806	—	—	Acid dyspepsia, nervous head aches, malaise, etc. Meat diet, no cathartics
XII a	1210	1022	Acid	Normal yellow	2.1%	Absent	Absent	Absent	Absent	0054	0195	—	—	Uric acid diathesis, acid fermentation, irritable, depressed, attacks of melancholia, lives on meat; takes one grain of calomel daily
XII b	1500	1021	Acid	Normal yellow	2.0%	Absent	Absent	Absent	Absent	0064	0113	766	186	Same patient Diet of cheese, cereals and bran for three days, Dose of sodium bicarbonate mornings, feels better
XII c	900	1024	Acid	Deep yellow	2.5%	Absent	Absent	Absent	Few oxalates	.00482	01587	2.135	144	Same patient After one week on meat diet, mental lassitude, nervousness, sodium bicarbonate mornings.
XII d	1350	1020	Acid	Normal yellow	2.0%	Absent	Absent	Absent	Absent	.00156	0122	1.53	189	Same patient Cheese, milk and bread diet for one week says he feels much better
XIII	1000	1023	Acid	Deep yellow	2.5%	Absent	Absent	Absent	Few oxalates	.0203	0483 Membrane	—	—	Uric acid diathesis, gastro intestinal indigestion, headaches, melancholia, constipation, followed by diarrhoea, flatulence, irritation during urination
XIV	700	1023	Acid	Deep yellow	2.7%	Absent	Absent	Few hyaline	Oxalates and urates	0077	.0609 Membrane	—	—	No data
XV	1200	1020	Acid	Normal yellow	2%	Absent	Absent	Absent	Oxalates few in number	.00806	0141	—	—	Uric acid diathesis, hydrochloric acid gastritis, five years ago passed uric acid calculi, head-aches, malaise, stupor, attacks of diarrhoea and polyuria
XVI	970	1020	Acid	Normal yellow	1.8%	Absent	Absent	Absent	Few oxalates	01147	00916	—	—	No Data
XVII	860	1020	Acid	yellow	2.2%	Absent	Absent	Absent	Few oxalates	00375	01233	—	—	Palpitation, preceded by malaise, stupor, pains in legs and about the heart, dull frontal headaches
XVIII	1250	1024	Acid	Normal yellow	3.0%	Absent	Absent	Absent	Few oxalates	0078	0129	—	—	Uric acid diathesis, head-aches, depression, attacks of diarrhoea, examination made after purging for three days with saline cathartics
XIX	1500	1022	Acid	Pale yellow	2.0%	Absent	Absent	Few hyaline	Oxalates few in number	00167	0069	—	—	Head-aches and depression, takes cathartics,
XX	860	1017	Acid	Deep yellow	2.4%	Absent	Absent	Few hyaline	Few oxalates	00077	014	—	—	Neurasthenic, hypochondriacal
XXI	1100	1016	Acid	Normal yellow	1.7%	Absent	Absent	Few hyaline and granular	Few oxalates	.0034	01506	—	—	Hydrochloric hyperacidity, constipation, head aches, malaise, melancholia, mixed diet
XXII	1125		—	—	—	—	—	—	—	0058	0129	—	—	Feels well, complains of no indigestion, mixed diet, gives a history of suffering from indigestion five years ago, from taking oil of santalwood
XXIII	1400	1023	Acid	Normal yellow	1.8%	Absent	Absent	Absent	Few oxalates	00372	019	1379	56	Suffers from lumbago, albuminuria at intervals, no casts, leads a vigorous life
XXIV	1200	—	—	—	—	—	—	—	—	0051	0200	35	144	Hydrochloric hyperacidity, constipation, attacks of gastralgia, mixed diet, takes saline cathartics daily
XXV	1700	1020	Acid	Normal yellow	1.8%	Absent	.2%	Absent	Absent	0128	00449	191 Fermentation	666 Fermentation	Glycosuria, malaise, polyuria, constipation, mixed diet
XXVI	3000	1018	Acid	Pale yellow	1.3%	Absent	8%	Absent	Urates and oxalates	Absent	0365	35	18	Uric acid diathesis, uric acid and oxalate crystals usually present in urine, diabetes for sixteen years, diet—fish and vegetables, uses saline cathartics
XXVII	700	1026	Acid	Deep yellow	2.4%	Absent	Absent	Absent	Few oxalates	.00264	0152	958	98	Recovering from an attack of acute rheumatism
XXVIII	1750	1013	Acid	yellow	1.1%	Absent	Absent	Absent	Absent	.00704	02425	958	28	No Data
XXIX	425	1025	Acid	Deep yellow	2.6%	Absent	Absent	Absent	Oxalates abundant	0046	00803	527	646	Uric acid diathesis, attacks of vomiting, followed by diarrhoea and polyuria, uric acid and oxalate crystals abundant, indigestion marked, mixed diet
XXX	960	1.024	Acid	Dark yellow	2%	Absent	Absent	Absent	Absent	Absent	0078	161	1536	No Data. First examination showed many oxalate crystals & indican rather heavy. In the twenty-four hours urine there were no oxalate crystals nor indican
XXXI	1700	1016	Acid	yellow	2.3%	Absent	Absent	Absent	Few oxalates	00231	0235	146	88	Spells of vertigo, pulse beat weak — rate 40
XXXII	1500	1.028	Acid	yellow	2.6%	Absent	Absent	Absent	Oxalates	00837	0234	127	144	Uric acid diathesis, melancholia, dizziness; headaches, rheumatic, joints feel stiff, flatulence, pain on urinating, bowels irregular
XXXIII	1250	1.021	Acid	yellow	1.9%	Absent	Absent	Absent	Absent	[illegible]	0239	839	18	Uric acid diathesis; has passed several renal calculi, at present has attacks of renal colic, suffers from indigestion

She found that gastritis with anacidity usually showed oxalate of lime crystals in the stomach contents. Sugar solutions with beef extract inoculated with a portion of stomach contents from the above cases and incubated for two days contained oxalate crystals. Quantitative experiments will have to be made along this line before positive conclusions can be drawn. Suffice it for the present to say that oxalic acid is probably produced in the gastro-intestinal tract through fermentation.

Taking all of the urines showing less than 11 mg. of oxalic acid (see Table 3), we get .0077 as a daily average. Taking all of the urine showing more than 11 mg. we get a daily average of .0175 gram of oxalic acid. (Leaving out Nos. 1a, 13 and 14, as these were estimated by Neubauer's[30] method, and therefore not reliable.) As these were all urines from persons more or less ill, it is impossible to state absolutely just what amount would be considered a daily average. I think, however, that Baldwin's[25] average of less than 10 mg. for the twenty-four hours is about correct. Of indican there should be, under normal conditions, virtually none, or, if any, a very faint trace.

DISCUSSION OF CASES.

In Case 1, *a* and *b*, there was a great difference in the amounts of indican and oxalic acid eliminated. This was a result of purging.

Case 11, *a* and *b*, was the same patient, cut down on meat and taking urotropin since first examination. Whether it was the urotropin or not that stopped the formation of indican I would not want to say on one examination. I call attention to Case 12, *a*, *b*, *c* and *d*, as representing several examinations of the same patient; also to Cases 13, 15, 18, 26, 29, 32 and 33. These cases were under my personal observation and therefore I am in a position to discuss them more intelligently. [illegible] of these cases were being treated, receiving cathar- [illegible] nd other drugs. One seldom gets the urine when [illegible] aroxysm is at its height, consequently the material [illegible] not be worked up as well as is desired.

Case 12, *a* had been suffering from indigestion, hydrochloric gastritis, for a great many years. Meat diet agreed with him best. Starches seemed to distress him. Taking of starches made the index finger on the left hand swell and become very painful and stiff. He was treated for gout. Going back to the meat diet would always correct the finger difficulty. Examination of 12, *a*, showed considerable indigo and a high percentage of oxalic acid. The excess of the latter would signify acid fermentation with some putrid decomposition. The patient was put on a cheese, bread and bran diet; a dose of sodium bicarbonate in the morning. At the end of three days' examination, Case 12, *b*, showed a slight increase in the indigo, but a marked
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fermentation. Winternitz[47] and Carl Schmitz,[46] as well as myself,[48] have shown that milk and koumyss diminish putrefaction, thereby restricting the formation of aromatic sulphates. I would like to refer to one case published in my original article. A patient, a typhoid, was put on a koumyss diet. Before commencing this the aromatic sulphates were .5 gram for the twenty-four hours. In three days, on the above diet, they were reduced to .0033. This goes to show that milk and koumyss restrict putrefaction. Carl Schmitz[46] says it is the casein in the milk which prevents the formation of these putrefactive bases; in that event one naturally would believe that the casein does not contain the skatol, indol and phenol group.

Cases 12, 13, 15, 18, 26, 29, 32, 33, all belong to the uric acid diathesis group. They suffered from hyperacidity gastritis. Examinations of the stomach contents seven hours after a meal showed the presence of considerable hydrochloric acid. Attacks usually come on as follows: Hands and feet cold and moist, feel heavy and depressed, polyuria lasting from five to six hours, headache, prostration, diarrhea and in some, vomiting. After a paroxysm the patients feel well again. This points to intestinal fermentation, the symptoms being brought on by the poisons absorbed.

Case 29 is especially interesting. I do not find so much indican and oxalic acid in the twenty-four hours' urine. The total quantity of urine passed being only 425 c.c. One can readily understand that there must be a great deal of retention. I have no doubt that if 1400 c.c. of urine had been passed the oxalic acid would have risen to .02409, which is very high. The patient, a medical student, has these attacks about once a month.

Case 26, *a*, diabetic, suffers from acid fermentation. I find no indican in his case, the absence of this probably due to diet. The oxalic acid is the highest percentage of all obtained by the modified method. Tenbaum[49] has called attention to the fact that in diabetes it is not uncommon to find indican, oxalic acid and lime salts very much increased.

Caspari[64] and Senator[12] have demonstrated that in oxaluria there is always increased elimination of the lime salts. This tends to point to an abnormal breaking down of proteid substance. P. Krohl[50] even goes so far as to say that he has produced glycosuria by subcutaneous injections of oxalic acid. Harnack,[1] however, in his experiments was not able to verify this.*

GASTRO-INTESTINAL FERMENTATION.

As a rule, in this condition we have two forms of fermentation going on—putrid, in which the aromatics are the end products, and acid fermentation, in which amido, fatty and oxalic acid are the end products. Table No. 3 shows that both forms are found in the majority of these cases. It matters not whether the
idity is due to hydrochloric acid or to acids of
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that originate in the proteids and those that originate in the carbohydrates and fats. These probably produce different symptoms. It is, however, not the purpose of this paper to discuss that part of the question, merely to call attention to it.

OXALIC ACID PRODUCTION AND OXALURIA.

Oxalic acid in small quantities is a normal constituent of the urine, and is derived from food-stuffs. An increase in its amount—not due to food—can only be accounted for as being a katabolic product, or produced through fermentation. Beilstein[53] says that if cyanogen is allowed to stand in water a short time ammonium oxalate is produced. The potassium sulphocyanid found in the saliva is thought to be an end product of proteid metabolism. Furthermore, if glyceric acid is heated with potassium hydrate, oxalic acid is produced. I mention the last fact on account of the close relationship between this acid and the sarcolactic acid.

The fermentation theory is pretty well proven. Baldwin's[25] experiment shows quite conclusively that the acid is produced by a fermentation in the gastro-intestinal canal. Many experimenters have demonstrated that fungi can produce oxalic acid. Pfeffer[54] says oxalic acid is produced in considerable quantities when different food-stuffs are treated with fungi; he found that he had to add enough of calcium carbonate to take up the acid quickly, as otherwise it is oxidized into carbon dioxid. Zopf[55] shows that saccharomycetes found in cotton-seed meal, when added to fermentable carbohydrates, produce oxalic acid in place of alcohol. Beilstein[53] says that after the taking of fermented beverages oxalic acid is always found in the urine. Ernst Wissel[56] finds yeast cells and sarcina abundant in the stomach of individuals suffering from hydrochloric hyperacidity. Dunlop[23] notices an increase in the oxalic acid after the giving of hydrochloric acid. All of these facts must be considered in the production of oxalic acid.

Begbie[57] describes oxaluria as a poison produced during digestion and assimilation, carried into the blood and eliminated by the kidneys. Gallois[41] says oxaluria is frequently met with in health, at all ages, and in all conditions of life; its appearance is influenced by certain food-stuffs and by certain drugs; it is often found in the urine of patients suffering from very different diseases. Prout[34] believes there is an oxalic acid diathesis. Hayem,[58] Ewald,[59] and others call attention to the neurasthenic phase in this condition; suffering from dilatation of the stomach and a great many other symptoms. Cantani[38] relieves the oxaluric condition by putting these patients on a strict meat diet.

URIC ACID THEORY.

In this connection a word must be said about uric acid. The most accepted theory at present is that uric acid is an end product of nuclein metabolism. The clinical diagnosis is based on the symptoms of headache, malaise, despondency, deposits of urates around the phalanges, etc.; the chemical diagnosis, on the total amount of uric acid excreted, and the presence of free uric acid in the blood and urine. Meat is still thought to increase the output, although it has been shown by competent observers that this also diminishes it. The ratio of uric acid to urea, namely, 1 to 33 (Haig's[60]) has been proven to be wrong. It has been shown that in healthy individuals this ratio is a most variable quantity. In pneumonia and in leukemia the uric acid is much increased, due to the decomposition of leucocytes. These cases are not diagnosed as gouty, although chemically and microscopically we get the gouty findings. All this, to my mind, shows that there are many and different causes that produce uric acid. Food per se, perhaps, is not a factor in its formation. The decomposition products of the food, however, are probably the inciters of uric acid formation. Poisons absorbed from the gastro-intestinal tract produce leucocytosis and general cellular activity, all of which have a tendency to early decomposition, uric acid being the ash of this combustion. Uric acid is non-toxic, therefore the general symptoms produced in these cases must be due to other poisons. These patients invariably complain of gastro-intestinal fermentation and flatulence. I refer to Cases 12, 13, 15, 18, 26, 29, 32 and 33, as individuals usually called gouty. Examination of the urine for the total amount of uric acid in such cases has been of no service as aiding in the diagnosis. This was not the fault of the laboratory man, but the fault of improper deductions. More work must be done along this line. Urines should be examined more for the products of fermentation and putrefaction than for uric acid, for in the gastro-intestinal canal will be found the agent causing these constitutional symptoms, uric acid being only a product of early decay and in no way a factor. The treatment of of these cases by giving alkalies has been beneficial for two reasons: 1, they neutralize the gastro-intestinal tract; 2, when absorbed they increase cellular activity and oxidation. This last point has been beautifully brought out by the works of Professors Loeb[61] and Zouthout.[62] To make a proper examination of a twenty-four hours' urine for the total oxalic acid and indican the following foods must be excluded: Fruits, spinach, rhubarb, sorrel and tea.

CONCLUSIONS.

1. Traces of oxalates are found normally in the urine, having been taken in with the food.
2. Oxalate crystals usually denote gastro-intestinal fermentation. Food rich in oxalates must be excluded.
3. Abundance of oxalate crystals does not signify high acid percentage, because in addition there may be oxalate of lime in solution.
4. Indican is often, but not necessarily, associated with oxalate crystals.
5. Hyperacidity on a meat diet contributes to putrefaction, whether due to excess of hydrochloric acids or acids of fermentation.
6. In certain disturbances of the gastro-intestinal tract due to excess of hydrochloric acid or to excess of fatty acids, in which there is fermentation, indican and oxalic acid are increased.
7. The symptoms of oxalic acid diathesis associated with indicanuria are not due to the oxalic acid nor to the indol, but to other products formed in the process of fermentation, and therefore the oxaluria and indicanuria are valuable as indicative of a putrefaction, to which the symptoms are to be referred.

The study of oxaluria and indicanuria holds open a rich field for investigation. In the intestines there are various poisonous bodies produced directly associated with the formation of oxalic acid and the aromatics. These, when better understood, will lead to new ideas, thereby giving us a better understanding of chronic diseases, such as rheumatism, gout, nephritis, etc. I hope to be able to continue this work, as material presents itself.

I am under the greatest obligations to Mr. J. W. Robinson, who assisted me so faithfully in the quantitative examinations. I also wish to thank Drs. Teschan and Roehr for making the clinical examinations. I am

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Case 11, *a* and *b*, was the same patient, cut down on meat and taking urotropin since first examination. Whether it was the urotropin or not that stopped the formation of indican I would not want to say on one examination. I call attention to Case 12, *a*, *b*, *c* and *d*, as representing several examinations of the same patient; also to Cases 13, 15, 18, 26, 29, 32 and 33. These cases were under my personal observation and therefore I am in a position to discuss them more intelligently. Most of these cases were being treated, receiving cathartics and other drugs. One seldom gets the urine when the paroxysm is at its height, consequently the material can not be worked up as well as is desired.

Case 12, *a* had been suffering from indigestion, hydrochloric gastritis, for a great many years. Meat diet agreed with him best. Starches seemed to distress him. Taking of starches made the index finger on the left hand swell and become very painful and stiff. He was treated for gout. Going back to the meat diet would always correct the finger difficulty. Examination of 12, *a*, showed considerable indigo and a high percentage of oxalic acid. The excess of the latter would signify acid fermentation with some putrid decomposition. The patient was put on a cheese, bread and bran diet; a dose of sodium bicarbonate in the morning. At the end of three days' examination, Case 12, *b*, showed a slight increase in the indigo, but a marked falling off in the oxalic acid. He said he felt much better, and was placed for a week on meat, bread and coffee. Examination of Case 12, *c*, showed a little less indigo, but a marked increase in the oxalic acid. The patient complained of feeling heavy, drowsiness, was very nervous, and had considerable flatulence, so was again put on cheese, milk and bread diet, this time for one week, so as to be sure and have the bowels empty of previous diet. Examination of Case 12, *d*, showed a marked falling off in indigo and oxalic acid when compared with previous examinations on a meat diet. This looked as though the meat increases oxalic acid as well as indican. The casein diet probably lessens the putrefaction.

The object of putting the patient on cheese was to determine whether or not this diet would prevent putrid fermentation. Winternitz[47] and Carl Schmitz,[46] as well as myself,[48] have shown that milk and koumyss diminish putrefaction, thereby restricting the formation of aromatic sulphates. I would like to refer to one case published in my original article. A patient, a typhoid, was put on a koumyss diet. Before commencing this the aromatic sulphates were .5 gram for the twenty-four hours. In three days, on the above diet, they were reduced to .0033. This goes to show that milk and koumyss restrict putrefaction. Carl Schmitz[46] says it is the casein in the milk which prevents the formation of these putrefactive bases; in that event one naturally would believe that the casein does not contain the skatol, indol and phenol group.

Cases 12, 13, 15, 18, 26, 29, 32, 33, all belong to the uric acid diathesis group. They suffered from hyperacidity gastritis. Examinations of the stomach contents seven hours after a meal showed the presence of considerable hydrochloric acid. Attacks usually come on as follows: Hands and feet cold and moist, feel heavy and depressed, polyuria lasting from five to six hours, headache, prostration, diarrhea and in some, vomiting. After a paroxysm the patients feel well again. This points to intestinal fermentation, the symptoms being brought on by the poisons absorbed.

Case 29 is especially interesting. I do not find so much indican and oxalic acid in the twenty-four hours' urine. The total quantity of urine passed being only 425 c.c. One can readily understand that there must be a great deal of retention. I have no doubt that if 1400 c.c. of urine had been passed the oxalic acid would have risen to .02409, which is very high. The patient, a medical student, has these attacks about once a month.

Case 26, *a*, diabetic, suffers from acid fermentation. I find no indican in his case, the absence of this probably due to diet. The oxalic acid is the highest percentage of all obtained by the modified method. Tenbaum[49] has called attention to the fact that in diabetes it is not uncommon to find indican, oxalic acid and lime salts very much increased.

Caspari[64] and Senator[12] have demonstrated that in oxaluria there is always increased elimination of the lime salts. This tends to point to an abnormal breaking down of proteid substance. P. Krohl[50] even goes so far as to say that he has produced glycosuria by subcutaneous injections of oxalic acid. Harnack,[1] however, in his experiments was not able to verify this.*

GASTRO-INTESTINAL FERMENTATION.

As a rule, in this condition we have two forms of fermentation going on—putrid, in which the aromatics are the end products, and acid fermentation, in which amido, fatty and oxalic acid are the end products. Table No. 3 shows that both forms are found in the majority of these cases. It matters not whether the hyperacidity is due to hydrochloric acid or to acids of fermentation, putrefaction will result in either case, indican being one of the end products.

Ziemke[51] says the normal amount of hydrochloric acid prevents putrefaction; anacidity, on the other hand, increases it. Blumenthal[63] finds that alkaline fermentation increases the indol and acid fermentation increases the amido acids. These last-named products should also be considered as putrefactive bodies. C. E. Simon[52] has demonstrated that in the hyperacidity of gastric ulcer indican is much increased. The poisons resulting out of this double fermentation belong to two groups: Those that originate in the proteids and those that originate in the carbohydrates and fats. These probably produce different symptoms. It is, however, not the purpose of this paper to discuss that part of the question, merely to call attention to it.

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* I used Dr. Walter Christopher's classification, putrid and acid fermentation.

OXALIC ACID PRODUCTION AND OXALURIA.

Oxalic acid in small quantities is a normal constituent of the urine, and is derived from food-stuffs. An increase in its amount—not due to food—can only be accounted for as being a katabolic product, or produced through fermentation. Beilstein[53] says that if cyanogen is allowed to stand in water a short time ammonium oxalate is produced. The potassium sulphocyanid found in the saliva is thought to be an end product of proteid metabolism. Furthermore, if glyceric acid is heated with potassium hydrate, oxalic acid is produced. I mention the last fact on account of the close relationship between this acid and the sarcolactic acid.

The fermentation theory is pretty well proven. Baldwin's[25] experiment shows quite conclusively that the acid is produced by a fermentation in the gastro-intestinal canal. Many experimenters have demonstrated that fungi can produce oxalic acid. Pfeffer[54] says oxalic acid is produced in considerable quantities when different food-stuffs are treated with fungi; he found that he had to add enough of calcium carbonate to take up the acid quickly, as otherwise it is oxidized into carbon dioxid. Zopf[55] shows that saccharomycetes found in cotton-seed meal, when added to fermentable carbohydrates, produce oxalic acid in place of alcohol. Beilstein[53] says that after the taking of fermented beverages oxalic acid is always found in the urine. Ernst Wissel[56] finds yeast cells and sarcina aboundant in the stomach of individuals suffering from hydrochloric hyperacidity. Dunlop[23] notices an increase in the oxalic acid after the giving of hydrochloric acid. All of these facts must be considered in the production of oxalic acid.

Begbie[57] describes oxaluria as a poison produced during digestion and assimilation, carried into the blood and eliminated by the kidneys. Gallois[41] says oxaluria is frequently met with in health, at all ages, and in all conditions of life; its appearance is influenced by certain food-stuffs and by certain drugs; it is often found in the urine of patients suffering from very different diseases. Prout[34] believes there is an oxalic acid diathesis. Hayem,[58] Ewald,[59] and others call attention to the neurasthenic phase in this condition; suffering from dilatation of the stomach and a great many other symptoms. Cantani[38] relieves the oxaluric condition by putting these patients on a strict meat diet.

URIC ACID THEORY.

In this connection a word must be said about uric acid. The most accepted theory at present is that uric acid is an end product of nuclein metabolism. The clinical diagnosis is based on the symptoms of headache, malaise, despondency, deposits of urates around the phalanges, etc.; the chemical diagnosis, on the total amount of uric acid excreted, and the presence of free uric acid in the blood and urine. Meat is still thought to increase the output, although it has been shown by competent observers that this also diminishes it. The ratio of uric acid to urea, namely, 1 to 33 (Haig's[60]) has been proven to be wrong. It has been shown that in healthy individuals this ratio is a most variable quantity. In pneumonia and in leukemia the uric acid is much increased, due to the decomposition of leucocytes. These cases are not diagnosed as gouty, although chemically and microscopically we get the gouty findings. All this, to my mind, shows that there are many and different causes that produce uric acid. Food per se, perhaps, is not a factor in its formation. The decomposition products of the food, however, are probably the inciters of uric acid formation. Poisons absorbed from the gastro-intestinal tract produce leucocytosis and general cellular activity, all of which have a tendency to early decomposition, uric acid being the ash of this combustion. Uric acid is non-toxic, therefore the general symptoms produced in these cases must be due to other poisons. These patients invariably complain of gastro-intestinal fermentation and flatulence. I refer to Cases 12, 13, 15, 18, 26, 29, 32 and 33, as individuals usually called gouty. Examination of the urine for the total amount of uric acid in such cases has been of no service as aiding in the diagnosis. This was not the fault of the laboratory man, but the fault of improper deductions. More work must be done along this line. Urines should be examined more for the products of fermentation and putrefaction than for uric acid, for in the gastro-intestinal canal will be found the agent causing these constitutional symptoms, uric acid being only a product of early decay and in no way a factor. The treatment of of these cases by giving alkalies has been beneficial for two reasons: 1, they neutralize the gastro-intestinal tract; 2, when absorbed they increase cellular activity and oxidation. This last point has been beautifully brought out by the works of Professors Loeb[61] and Zouthout.[62] To make a proper examination of a twenty-four hours' urine for the total oxalic acid and indican the following foods must be excluded: Fruits, spinach, rhubarb, sorrel and tea.

CONCLUSIONS.

1. Traces of oxalates are found normally in the urine, having been taken in with the food.

2. Oxalate crystals usually denote gastro-intestinal fermentation. Food rich in oxalates must be excluded.

3. Abundance of oxalate crystals does not signify high acid percentage, because in addition there may be oxalate of lime in solution.

4. Indican is often, but not necessarily, associated with oxalate crystals.

5. Hyperacidity on a meat diet contributes to putrefaction, whether due to excess of hydrochloric acids or acids of fermentation.

6. In certain disturbances of the gastro-intestinal tract due to excess of hydrochloric acid or to excess of fatty acids, in which there is fermentation, indican and oxalic acid are increased.

7. The symptoms of oxalic acid diathesis associated with indicanuria are not due to the oxalic acid nor to the indol, but to other products formed in the process of fermentation, and therefore the oxaluria and indicanuria are valuable as indicative of a putrefaction, to which the symptoms are to be referred.

The study of oxaluria and indicanuria holds open a rich field for investigation. In the intestines there are various poisonous bodies produced directly associated with the formation of oxalic acid and the aromatics. These, when better understood, will lead to new ideas, thereby giving us a better understanding of chronic diseases, such as rheumatism, gout, nephritis, etc. I hope to be able to continue this work, as material presents itself.

I am under the greatest obligations to Mr. J. W. Robinson, who assisted me so faithfully in the quantitative examinations. I also wish to thank Drs. Teschan and Roehr for making the clinical examinations. I am also indebted to Dr. Robert H. Babcock for most of the clinical material which I present in this paper.

BIBLIOGRAPHY.

1. Harnack: Zeitschrift f. Physiol. Chem. Bd. xxx, S. 205.
2. Jaffe: Virchow's Arch., Bd. 70, S. 78.
3. Rosin: Ibid., Bd. 123, S. 519.
4. Hoppe Seyler: Zeitschrift f. Physiol. Chem., Bd. vii, S. 420.
5. Peurosch: Quoted; Hoppe-Seyler Physiol. Chem., S. 842.
6. Nencki: Berichte d. Deutsch. Chem. Ges., Bd. 8, S. 336.
7. Kühne: Ibid., Bd. 8, S. 206.
8. Salkowski: Quoted; Zeitschr. f. Physiol. Chem., Bd. xxix, S. 217.
9. Jaksch: Ibid.
10. Keilmann: Malys Jahrb., Bd. 23, S. 595.
11. Rosenbach: Ibid.
12. Senator: Medicin. Centralbl., No. 20.
13. Concetti: Malys Jahrb., Bd. 28, S. 792.
14. Mazetti: Wiener medic. Presse, Nos. 40-41.
15. Stanisl Momidkowski: Jahrb. f. Kinderheilk., Bd. 32, S. 192-209.
16. Beckmann: Malys Jahrb., Bd. 24, S. 635.
17. Müller: Berlin. klin. Woch., No. 24, 1887.
18. *Wollaston: Quoted;* Jour. of Path. and Bact., vol. iii., 1896.
19. Fourcroy: Ann. di Chem., Paris, 1799.
20. Lehman: Lehrb. d. physiol. Chem., 1853, S. 43.
21. W. Kühne: Ibid., 1868, S. 512.
22. Schultzen: Wiener klin. Woch., No. 19.
23. *Fürbringer: Arch. f. klin. Med., Berlin, Bd. xviii, 1876.*
24. Dunlop: Jour. of Path. and Bact., vol. iii, p. 389.
25. Baldwin: Jour. of Exp. Med., vol. v, p. 27.
26. Gaglio: Arch. f. exper. Path. u. Pharm., Bd. 22, S. 246.
27. Wesley Mills: J. Th. B., 15, S. 227.
28. *H. Lüthje:* Zeitschr. f. klin. Med., Bd. 35, S. 271-282.
29. Wöhler: Annal d. Chem. u. *Pharm., Bd. 65, S. 340.*
30. Frerick: Ibid.
31. Neubauer: Ibid., Bd. 99, S. 211.
32. Salkowski: Ber. d. Deutsch. Chem. Ges., Bd. 9, S. 719. Zeitschr. f. Physiol. Chem., Bd. xxix.
33. Hammerbacher: Arch. f. d. ges. Physiol., Bonn, Bd. xxxiii.
34. Prout: On the Nature and Treatment of Stomach and Urinary Disorders, London, 1840.
35. Reale: Wiener med. Woch., No. 38.
36. Boeri: Ibid.
37. Smoler: Prager's Vierteljahrschr., Bd. 69, S. 157.
38. Cantani: Deutsche von S. Hahn, Berlin, 1880.
39. Haas, Neumeister: Lehrbuch Physiol. Chem., S. 696.
40. Walsche: Jour. Med. Sci., London and Edin., 1849.
41. Gallois: Compt. rend. soc. de biol., Paris, 1859.
42. Moddermann: Schmidtz Jahrb., Leipzig, 1865.
43. Salkowski: Zeitschr. f. Physiol. Chem., Bd. xxix, S. 445.
44. Evan Wang: Ibid.
45. P. Marfori: Malys Jahrbericht, 1891.
46. Karl Schmitz: Zeitschr. f. Physiol. Chem., Bd. 19, S. 387-400.
47. Hugo Winternitz: Ibid., Bd. 16, S. 400-487.
48. Wesener: N. Y. Med. Jour., vol. lx, p. 551.
49. Teubaum: Zeitschr. f. Biolog., Bd. 33, S. 379.
50. P. Krohl: Citirt, Zeitsch. f. Physiol. Chem., Bd. xxix, S. 214.
51. Ziemke: Centralbl. f. innere Med., Bd. 7, S. 203.
52. C. E. Simon: Am. Jour. of the Med. Sci., 1895.
53. Beilstein: Handbuch d. organ. Chem., Bd. i, S. 639.
54. M. Pfeffer: Ber. d. Sächs. Akad. der Wis., 1891, S. 24.,
55. Zopf: Quoted; Jour. Exp. Med., vol. v, p. 37.
56. Ernst Wissel: Zeitschr. f. Physiol. Chem., Bd. 21, S. 234.
57. Begbie: Jour. Med. Sci., London and Edin., 1849.
58. Hayem: Lecons de Therapeutique.
59. Ewald: Diseases of the Stomach.
60. Haig: Uric Acid Diathesis.
61. J. Loeb: Arch. f. d. ges. Physiol., lxii, S. 249-294.
62. Zoutbout: Am. Jour. of Physiol., vol. ii, p. 220.
63. Blumenthal: Zeitschr. f. klin. Med., Bd. 28, S. 17.
64. Caspari: Quoted: Zeitschr. f. Physiol. Chem., Bd. xxix, S. 215.

SOME ADDITIONAL OBSERVATIONS ON THE EFFECTS OF INJURY TO PERIPHERAL NERVES.*

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CLINTON, IOWA.

Two years ago I read a paper before the Academy, on "Injuries to Peripheral Nerves," in which a case was related illustrating the effects of a comparatively slight injury to the nerves of the thumb, resulting in very distressing symptoms covering a period of more than two years. The extremely painful symptoms were due to a pressure lesion including the branches of the median nerve supplying the thumb. The amount and density of the connective tissue attending the healing of the wound was remarkable. The healing of the original injury was scarcely accomplished before painful twitching of the thumb occurred. It was at once recognized that the nerve branches were caught in the scar, and it was apparent that relief could be obtained only through surgical means. Twice the scar was dissected out and the nerve freed. Later the external cutaneous and the collateral branches of the median supplying the thumb were resected with the effect of producing paralysis of sensation on the palmar surface, but the pain recurred after the healing, with the addition of painful spasms of the fingers supplied by the median nerve, painful sensations extending up the arm, and vasomotor paralysis together with somewhat widespread reflex disturbances.

A fourth operation consisted in a division of all the soft parts, including the adductor muscles, nerves and vessels, to the inner side of the original injury down to the bone, at the same time removing the scar tissue, allowing the parts to retract, uniting only the skin with a few stitches and using gauze drain.

The fifth operation consisted in amputating the thumb through the middle of the metacarpal bone. Complete relief would follow each operation for a period of about six weeks, when the old pain would return—although it may be said that after the last operation the pain did not reach its original intensity; in fact, for a few days in succession comparative relief would be obtained, then for several days the pain would be very severe, extending up the arm, and attended with vasomotor paralysis in the hand and fingers, violent and painful flexion of the fingers into the palm of the hand. It was at this time that the case was reported.

At the end of six months, the condition not improving—and, as the pain had increased and the man totally incapacitated for any kind of employment—propositions for further operative procedure were made. The patient was now quite willing to have the median nerve resected with all the crippling effects resulting therefrom, or even to have his arm amputated if it would afford any relief. At the suggestion of Dr. Owens, the remaining portion of the metacarpal bone of the thumb was removed by amputation at the carpo-metacarpal articulation, all the scar tissue dissected out and the median nerve carefully raised and freed from any nerve connective with the thumb—if any existed. The wound healed promptly, but in three weeks the pain returned in all its former intensity. I had already been impressed with the fact that a chronic neuritis existed in the median nerve, and that under the influence of this morbid condition trophic changes occurred in the new-forming tissue of the wound, resulting in the production of a large amount of dense connective tissue, which exercised a pressure influence on the already irritated nerve. The great suffering of the patient, his utter inability to perform any labor, and my failure thus far to furnish any permanent relief led me to consider every possible means short of the mutilation operation of the median nerve resection or amputation. After considerable reflection, it occurred to me that if I could protect the nerve from the compressing influence of dense scar tissue, something could be accomplished. I therefore secured from a dentist a sheet of gold of the uniform thickness of 1/500 of an inch, 1¾ inches in length and ¾ of an inch in width. This I placed in the sterilizer, and I prepared the hand with great care, observing the most rigid asepsis. I again opened up the wound, dissected out all the scar tissue, lifted up the median nerve as it passed through the wound, on a strabismus hook, to make sure that the nerve was free from scar tissue. When this was done I covered the nerve with the sterilized gold sheet above referred to, pressing it down on each side of the nerve, fitting it evenly so that the nerve could come in contact with the tissues of the hand only at its posterior surface as it passed along its course. The flaps, composed of the skin and subcutaneous tissue—which I had formed in exposing the field of operation—were united over the gold foil with silkworm gut and horsehair. The greatest care was taken at every step of the operation to secure the most perfect asepsis and coaptation of all the parts. The wound was covered with copious dressings which were removed at the end of ten days, when the wound was found perfectly dry and the stitches removed.

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* Read at the Annual Meeting of the American Academy of Railway Surgeons, held at St. Paul, Minn., Sept. 5 and 6, 1900.

This last operation was made April 18, 1899, and about two months later the patient resumed work as a bridge carpenter, and has continued in this employment since, having been practically free from pain.

When he first resumed work, if he exercised the muscles of his arm much or exposed it to any continued jarring influence, or if he became exhausted from any cause, he would suffer more or less severe attacks of pain, which would however subside after a day of rest. The condition of the nerve gradually improved until at the end of a year he was practically free from pain, whatever he might do. At that time an incident occurred which illustrated the serious nutritive disturbance resulting from two and one-half years of constant irritation. He was employed to pick up nails for three hours, and that night suffered considerable pain, contraction of fingers into the palm of the hand and vasomotor paralysis. This all cleared up without treatment, after a day or two of rest. It may be observed in this connection that the hand was very susceptible to the influence of cold.

At the present time—one and one-half years after the operation—the median nerve may be said to have been restored to its normal state of nutritive stability, and that the man is able to perform any labor adapted to his years and strength with entire freedom from pain.

AN OPERATION FOR CYSTOCELE.

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The necessity of operating for cystocele, either with or without plastic operations, of the female genital tract, is not an infrequent occurrence. The unsatisfactory results of operations usually employed, especially in old women with relaxed and dilated vaginal outlets, are frequent. Usually failure is due to stretching of the newly formed cicatrix, or to imperfect attachment when the base of the bladder is anchored to structures above the plane of the anterior vaginal wall.

In the absence of dense fascia in this part of the genital canal the repair of cystocele must depend upon the fixation of soft yielding structures to similar parts, but should be reinforced by ample support from the posterior vaginal wall and perineum, and in certain cases with ventrosuspension or some similar operation. Even then the results are not invariably good. This, with the fact that extensive operations in old women are objectionable, makes an urgent appeal for improvement in technique.

Hoping to find something to answer the demand, various procedures were tried as cases of this kind presented themselves to me. First, superimposed layers of catgut sutures were used in the sulci on either side of the vagina with fair success, and perhaps superior to the ordinary Stoltz-Sims operation or elliptical denudation. Following this the redundancy of tissue was folded in upon itself and pressed into the bladder-space by superimposed layers of catgut sutures in the median line (see Case 1). The effect was quite good, but occasionally there would be some return of the cystocele in after years. Other modifications were tried with varying success until buried sutures of silk, silver and kangaroo were used.

With patient in Sims' position, a diamond-shaped denudation is made over the protruding cystocele, which should be outlined in the following manner: With two pairs of tenacula the mucosa is picked up on either side of the vagina, about half-way up the canal, and drawn toward the median line. This is repeated until two points are selected that will barely meet or touch when slight tension is put on them. They are marked by snipping out the pieces of mucous membrane engaged by the hook. In like manner the angle at the base of the urethra, and also one anterior to the cervix uteri, are marked. A tenaculum should engage the point on the right-hand side and sufficient tension be made upward to throw the mucous membrane of the vagina into a sharp fold or ridge running from the urethra to the tenaculum. With a pair of scissors a strip of mucous membrane is pared off along the crest of the ridge marking the right inferior side of the quadrangle. The hook should then be fixed at the mark anterior to the cervix and a thumb forceps should catch the lateral angle just released from the tenaculum. The two instruments are then drawn in opposite directions, forming a fold in the vaginal wall similar to that described above. A strip of mucous membrane is removed between the instruments marking the right superior side of the quadrangle. In like manner outlining of the diamond is completed upon the opposite side, after which it becomes an easy matter to remove the island of mucous membrane in one piece. All fatty tissue should be removed as far as practicable, that it may not interfere with direct contact of the muscular tissue. The sutures are easiest introduced by starting on one side of the urethral angle. The needle should enter the edge of the denuded surface beneath the mucous membrane, penetrating at the junction of the middle and lower third of the right anterior side of the quadrangle, passing in an eccentrical direction to a depth of one-half inch into the vesico-vaginal septum. On returning it should emerge from the margin of the wound one-half inch away, completely burying the suture. It is then carried a short distance toward the center of the field, perhaps one-half inch, and a deep stitch taken in the vaginal wall but not including the mucosa of the bladder. The suture is then returned to the margin of the wound and another buried stitch made as first described, but penetrating the septum one-fourth to one-half inch further. Another stitch is then made in the denuded surface, after which a third one is introduced upon the outer side of the wound as first described (see Fig. 1). In this way five stitches are introduced on each side of the diamond (see Fig. 1), three of which are submucous and extended horizontally outward, including the muscularis of the vagina and bladder; the other two are made in the denuded field and passed at right angles to the surface. It will be observed that a line drawn from the tips of each of the loops extending outward will approximate a circle, and the suture when drawn tight will assume a similar shape, effectually closing the wound on the principle of a purse-string. The sides of the diamond are forced sharply inward and each converted into a right-angled triangle, the apices of which come in close contact in the center of the wound, forming an imperfect cross (Fig. 2). The margins of the wound are accurately closed with catgut (see Cases 4 and 5).

When silk or kangaroo sutures are used they should be introduced in a slightly modified manner (Fig. 3). Let the diamond *a*, *b*, *c*, and *d* represent the denuded surface over the vesicocele. Four small silk sutures are passed across the angles at the points 3-3-3-3, or at a distance *from the angles equal to one-fourth of the* respective sides of the quadrangle. They should be small silk or medium kangaroo, and include all the tissues of the vesico-vaginal septum except the mucous membrane on either side, and should be buried deep. They serve to close the angles of the wound and reduce the field of operation to such an extent that a smaller purse-string suture can be used. This is quite an important feature for unabsorbable sutures. When they exceed No. 28 silver wire in size the latter gives the least resistance, consequently the shorter the ligature the better are the chances of success, especially when silk is used.

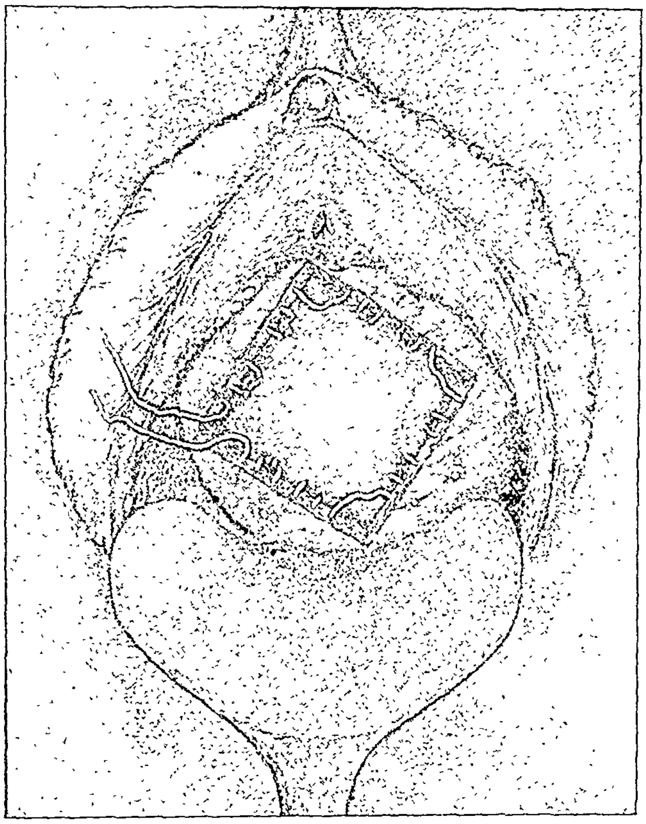

Figure 1.

This suture should be introduced in the manner described in Fig. 1, except that one stitch or loop only is made on each side of the diamond.

It should follow the line 2-2-2-2, each stitch surrounding the central point (Fig. 3, 1) of each side of the quadrangle. In passing across the denuded surface, from side to side, two deep stitches should be taken in the base of the bladder down to but not including its mucosa, at the points marked X. When drawn together and tied the sides of the diamond are forced in concentrically (Fig. 4, 1), producing the same effect as the wire—that is, the formation of a cross. The margins of the wound should then be closed with a whip-stitch of fine catgut (see Cases 2 and 3).

Success of the operation does not depend on the use of silver wire, *but any lasting buried suture may be used.* Any one familar with the technique of burying fine silver wire (No. 28) will meet with success when employing it in this operation. It should be buried deep, fastened with very little tension, and the ends folded under twice and mashed down flat to prevent its sticking or irritation (Figs. 5 and 6). When wire is used it is perhaps better to begin its introduction at one of the lateral triangles, that the twisted ends may be covered more deeply and placed out of harm's reach. Silk suture, large kangaroo, chromicized catgut are satisfactory materials, but personally I prefer the silver *for very bad cases,* because I have had no unpleasant result with it in the operation.

ILLUSTRATIVE CASES.

Case 1.—M. C., Atlanta, Ga., aged 35 years, was admitted to the King's Daughters Hospital, April 30, 1890. The physical examination showed anemia and neurasthenia. The heart, lungs, and kidneys were negative. The perineum had been lacerated to the sphincter in her last confinement, four years before. The uterus was subinvoluted, retroverted and about three times its normal size. The bladder was rolling out between the vulvæ in a mass the size of a large goose-egg. There was frequent dysuria, the urine alkaline, otherwise negative.

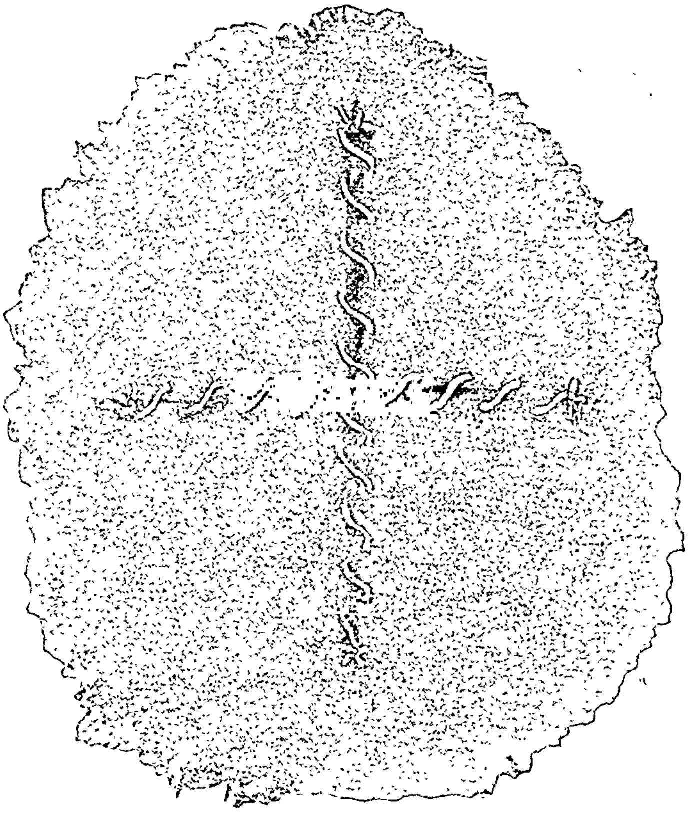

Figure 2.

An oval denudation was made over the cystocele to its base on all sides and superimposed layers of catgut sutures—whip-stitch—were put in from above downward, tucking the redundancy of tissue into the bladder space as each layer was imposed. In all, three layers were employed, two being completely buried, the last used as a finishing suture to close the margins of the wound, after which colpoperineorraphy after Martin was done with slight modification. The immediate results were satisfactory and the patient was dismissed May 24, 1890.

Seven years afterward I had an opportunity of examining this case, and, much to my gratification, she had remained well with the exception of slight retroversion. Other cases were done in this way prior to the year 1888, but my notes of them are missing, consequently this one is employed for illustration.

Case 2.—Mrs. M. E. D., aged 33 years, was admitted to the King's Daughters Hospital, Sept. 11, 1888. She was a hard-working woman, having the care and support of an invalid husband, two children and herself forced upon her. The perineum had been lacerated to the rectum in the first confinement, five years before. The uterus was completely prolapsed and protruding from the vulva. The bladder extruded in a globular mass about the size of a baseball. The anterior vaginal wall was very short, the posterior very long, making the fitting of a pessary impracticable. Frequent attacks of cystitis added much to her discomfort and the prolapsus grew rapidly worse until she was forced to go to bed.

The heart, lungs and kidneys were normal, also the urine, except that it was alkaline in reaction and contained a quantity of pus and albumin. Anemia was marked.

The cystocele was reduced in the manner described in the operation where silk sutures were used (Fig. 3), this being the first case in which I employed it. I first began making the diamond denudation in preference to the oval, on account of the greater facility with which it could be done; then found that it afforded a better and easier approximation of the edges of the wound. This was strikingly apparent after putting in the small stitches across the angles. The purse-string suture naturally presented itself, and was employed to bring the sides of the diamond into the center of the field. An important step in each of these stitches is taking an extra deep hold in the muscular coat of the bladder as well as in the vagina. This is an immense advantage over the old Stoltz operation which only puckers the mucous membrane together.

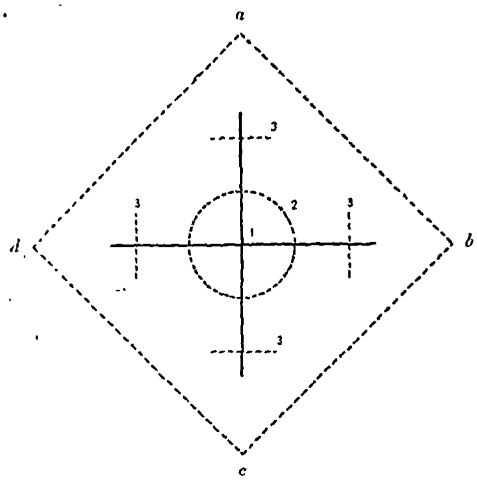

Figure 3.

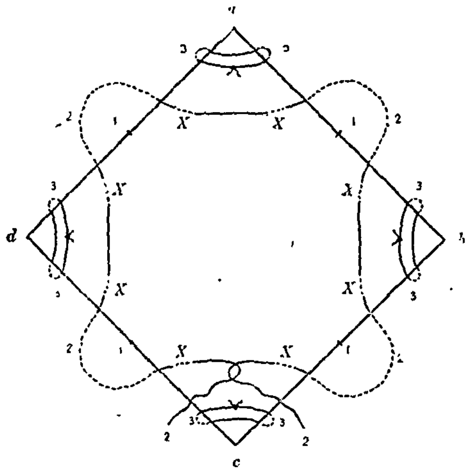

Figure 4.

The posterior operation was done upon this case, employing Emmett's operation on the perineum and buried catgut—superimposed—in the posterior vaginal wall. The results were excellent. The patient was dismissed Oct. 13, 1888, and today—twelve years after—is a well, hard-working stenographer and typewriter.

Case 3.—With this case I had the honor of beginning the surgical work of the Grady Hospital—the first case, the first day, the first operation. Chromicized catgut was used, closing the diamond on the principle of the purse-string as described above. There was great relaxation of the vaginal outlet, requiring closure by the Emmett operation on the perineum.

The cystocele was very large, dragging the uterus so low that the cervix protruded between the labia with the rectum rolling out behind it. The patient was incapacitated for work of any kind, being confined to bed the greater portion of the time, and, not being able to retain any form of artificial support, suffered frequent and distressing dysuria and fermenting and alkaline urine.

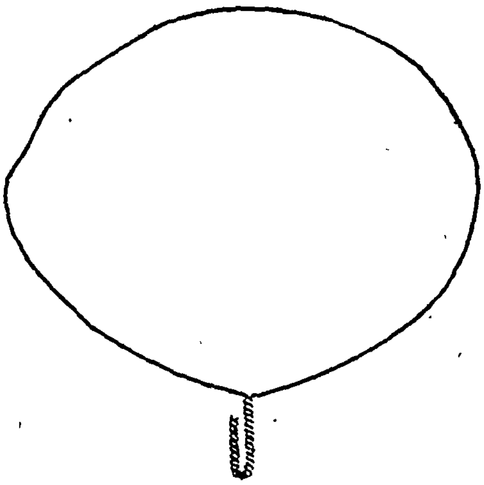

Figure 5.

The operation proved satisfactory for five years; after that time she was lost sight of. A result of this kind in a woman 60 years of age, who was placed in charge of the children of an orphan asylum, with the exertions her duties required, speaks well for the method of operating.

Case 4.—Mrs. G., Decatur, Ga., aged 65 years, presented a bladder protruding through the vaginal orifice the size of a goose-egg, with painful and frequent urination from fermenting urine. Confined to bed for the greater part of three weeks, she was anemic with relaxed vaginal outlet; no tear in the perineum. The uterus was senile, but engorged, enlarged and dragged down nearly to the floor of the pelvis.

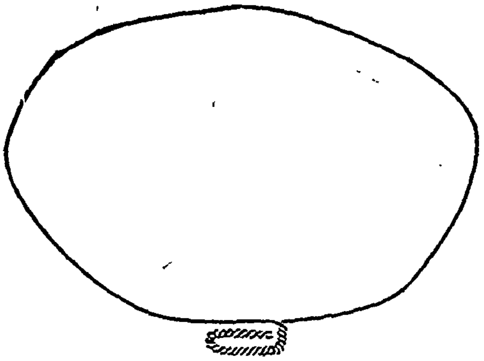

Figure 6.

Operation was done with the assistance of Drs. Green and Thomas, and silver wire, No. 26, used. Approximation was nearly circular, the denudation being oval in shape. The center was imperfectly closed, leaving a slight aperture in the center where the tissues crowded together. Here the advantages of the diamond-shaped denudation were shown, as the sharp angles formed by the four sides of the quadrangle fitted accurately into each other so as to prevent gaping of the wound. Success was all that could be expected. The cystocele was relieved. The dragging uterus was relieved of its strain and weight, consequently it resumed its normal position. The cystocele was not of very long standing.

Case 5.—Mrs. C. O., aged 54 years, was admitted to Grady Hospital July 16, 1898. Urine: Color normal, specific gravity 1028, acid, small amount of albumin, much oxalate calcium crystals; no casts. The perineum was torn to the sphincter ani, a vesicocele, like a large pear, protruding from the vagina. I operated on July 28, with diamond shaped denudation; wire purse-string suture, buried; superficial suture, catgut. A flap operation was done on the perineum, with wire and catgut. The stitches were removed Aug. 5. The results were perfect.

This case is selected as an illustration because the operation was done in the presence of Major McDonald, Surgeon U. S. V., of Albany, N. Y. The diamond was drawn together with buried silver wire, No. 28, and the margins of the wound whipped over with small catgut. The results were excellent and the wire was successfully buried. At last accounts the patient remained well and free from polyuria or prolapse of the bladder. The dysuria was completely relieved.

131-133 S. Pryor Street.

INDIVIDUAL PROPHYLAXIS.

W. A. EVANS, M.D.
CHICAGO.

The question of individual prophylaxis includes preventive measures against bacterial and all other diseases and morbid conditions other than inherited structural changes and pathologic processes. What I will say will be limited to a few features of bacterial diseases.

In bacterial diseases we must never lose sight of two groups of factors: 1, the invader and its modifiers, and 2, the defendant and his modifiers. In the case of epidemic diseases the first of these is of supreme importance. However, even here the second is a factor, for even in times of severe epidemic not all of those who inhale or otherwise take in the bacterial cause have the disease, even though they have not the immunity acquired by a previous attack or by intermittent association.

In the case of endemic diseases, the second factor, namely, the individual and his modifiers, becomes of major importance. However, the first factor is not to be lost sight of, for, with influenza bacilli present in mucous secretions that are normal, and there being no such thing as acquired influenza immunity, in the ordinary acceptation of the term, it follows that there must be variance in the chemistry of the influenza bacillus.

Levy and Klemperer say: "From the constant contact with the infective bacteria to which man is continually exposed, infections would be far more frequent than they really are if the predisposition of human beings to bacterial disease were not on the whole but inconsiderable. In general, the power of resistance of our tissues against bacteria is so great that for infection to take place an additional special contributing cause that diminishes this power of resistance, in other words, a predisposing influence is necessary."

When we study the individual as a factor in infectious diseases we find many subsidiary factors. There is inherited immunity acquired by an attack of the disease, by an attack of a similar disease, by intermitting exposure, etc. In addition to these influences retarding infection, there are factors aiding it. I will restrict what I have to say to four of these: 1. Mental depression. 2. Overexertion. 3. Cleanliness. 4. Exposure to cold.

Mental Depression.—We have illustrations in the experience of every one that temporary susceptibility can come from mental depression. Every text-book article on susceptibility and immunity gives mental depression as a predisposing cause. This is a very considerable factor in infection in its inception; it can also be a factor in its continuation. The patient with an infectious disease, who is frightened or otherwise depressed, has a lessened chance of successfully resisting.

Overexertion.—The effects of overexertion are matters of constant laboratory observation. The dog treadmill and the rat-cage with a revolving attachment are matters of almost habitual class demonstration. The only point that I wish to raise here is: Is it not possible that at times our physical treatments are too vigorous? For example, some surgical dressings, especially those of fractures; the prolonged maintenance of one position in bed, whether that position is difficult or the easiest possible; the prolonged maintenance of head-low-position after hemorrhage; vigorous tubbing, etc.

Cleanliness.—A few years ago one of the most brilliant younger members of Chicago's medical profession quit that for the soap business. In a recent private letter he claims continued kinship with the medical profession because the soap profession is the cleanest of professions.

Two sides of the dirt question require no word: The first is, dirt as one of the elements of bad hygiene; the second, dirt as a carrier of infection in wounds. There is an unorthodox side about which I wish to say a word. Suppurative conditions and suppuration-bacteria are endemic. In ever-present diseases the personal equation of the individual attacked is the larger factor. Is not cleanliness increasing our susceptibility to pus processes, both as prime causes of localized abscesses, metritis, appendicitis, and diffused disease conditions—septicemias and pyemias—and as complications of other diseases, such as tuberculosis and typhoid. Fowls do not have suppurations. It is difficult to infect guinea-pigs, rabbits, and, in fact, any of the lower animals with pus cocci. Wounds of the feet of horses and other domestic animals do not ordinarily suppurate. Tuberculosis in such animals frequently makes fibrous, often caseating lesions. Sometimes liquefying areas are found. Suppuration is altogether exceptional.

It is a matter of common observation that wounds on the hands of farmers and machinists, where cleanliness is not possible, seldom suppurate. Wounds on the hands of people whose work does not soil the hands are very prone not only to local infection, but they frequently serve as portals for more or less general lymphatic or blood infection. Susceptibility and immunity of a given area entirely regardless of general susceptibility and immunity have been demonstrated in the case of the rabbit's ear.

I have seen postpartum infection of negro women of the less cleanly type yield speedily to the most rudimentary cleanings. Infections in white women, seemingly much less violent and combatted by cleanings that were much more thorough, have been inefficient.

Exposure to Cold.—It would consume space unnecessarily to cite proof that exposure to cold, to heat, to wet, etc., can determine infection in both man and the lower animals. It is quite possible that the mechanism lies in the vasomotor apparatus alone. Again, it is possible that it pertains to the vasomotor apparatus and the local cells combined. The only point I wish to make here is: To protest against the policy of protection; to be specific, woolen underwear, rubber shoes, chest protectors, throat mufflers, hot Scotch, etc.

Our resisting capacity, whether vasomotor, biologic, or something else, does not differ from our muscle capacity in the particular that, if it is exercised, it grows; if it is not it diminishes. If certain zones of the body surface are never allowed to get cool, then a sudden local chilling results in infection. But education can make those areas indifferent to the effects of chilling. One of the predisposing factors is removed. If the feet are habitually dry and warm, cold and wet will determine infection. If no attention is paid to whether the feet are wet or dry, they cease to be predisposing factors in infection. The neck can be trained to the same hardihood and the same indifference to changes of atmospheric conditions as the face, both in its relation to infection of the throat, and to general infection. I am trying to emphasize the habit side of this question. What I have to say does not apply to isolated exposures.

STATEMENT MADE BEFORE THE COMMITTEE ON PUBLIC HEALTH OF THE NEW YORK ASSEMBLY

AT THE PUBLIC HEARING ON ASSEMBLY BILL 759, REGULATING AND LEGALIZING THE PRACTICE OF OSTEOPATHY IN THE STATE OF NEW YORK AND FIXING PENALTIES FOR THE VIOLATION THEREOF.

JAKOB BOLIN.
NEW YORK CITY.

The New York Medico-Gymnastic and Massage Society, incorporated under the laws of the state, has a membership of graduates and non-graduates of medicine who practice those branches of therapy, which are denoted in the name of the society. When this society resolved to appear before you through delegates, it was thought advisable that both these elements in its membership should be represented in order that the opinion might not prevail that the physicians among us carried things with a high hand, but to let it be known to you that whatever differences of opinion there may be on other questions, all the members stand hand in hand on this particular one. I have been elected to represent the laity in our society, and to give you our views on this matter.

The questions for me to answer are simply these: what relations exist between osteopathy on the one hand and massage and medicogymnastics on the other? What are their similarities and differences? And how does this bill, if it becomes law, effect those who practice massage and medicogymnastics?

Let me then state that here, as in so many other cases, the old saying slightly changed is true: What is good in osteopathy is not new, what is new is not good. Manipulations and movements have been used in therapy from time immemorial. It is not necessary to refer to the ancients, but you should know that from 1804 they were set into system in Sweden by P. H. Ling, and were in 1813 recognized by the government as a legitimate branch of therapy, and at the present time they are so recognized. But even in that country where these practices are unqualifiedly better understood than anywhere else, where the course of instruction has a duration of three years, and the students must have a preliminary knowledge corresponding approximately to the academic degree of B. A. before they may even enter upon their professional studies, the government does not allow the independent practice of the graduates of its own institution, but requires a certain amount of co-operation between them and the legalized physicians. In this bill it is proposed to give independent practice to persons who may have taken a course of a month or a correspondence course of a few months. When the standard of medical education in the state has been laboriously raised to approach that of Europe, is it not an arrogance, an audacity, a crime, aye, even a stupidity, which is perhaps still worse, to try to degrade it with one stroke?

The treatment of disease by manipulations and movements is not, then, a new discovery, as claimed. Nor is it new in this country. From Sweden it was introduced into New York by two physicians, the two brothers Taylor, in the fifties, and it is now practiced more or less successfully by several hundred persons all over the country, who have gained no new knowledge from the osteopaths. I have here some works by osteopaths, and some by gymnasts. It was my intention to demonstrate by the pictures in them their similarities of procedure. The denial by the osteopaths of authoritative value to the works published in their name would, however, make such demonstration invalid.

Have our physicians taken any interest in these matters? A great variety of manipulations were collected in 1835, by Dr. Martin, of Lyon, and under the name of massage they have been studied and applied by several of the most noted physicians of our era. The celebrated Esmarch, late surgeon-general of the Prussian army, was one of its most pronounced advocates. Zabludowsky, Mosso, and a host of others have studied its physiology. Dr. Metzger has gained world-fame in its application.

Now these men who come before you to urge this bill, which under the guise of breaking the monopoly of the physicians, endeavor to set up a monopoly in this particular branch, shutting out completely us who have practised long before osteopathy was thought of, these men are simply very poor imitators of their predecessors, very poor not only in so far that they apply only part of the means at our disposal, but poor also in the sense that they apply what they do use upon absolutely false and preposterous grounds. They see dislocations and subluxations everywhere. Last summer there came under my care a case of locomotor ataxia where they had diagnosed a dislocation of the spine. Less than two months ago I received from one of the most prominent neurologists in the city of New York a patient with localized cerebral venous stasis. They had "discovered" a subluxation in his neck! That is one difference between them and us. We take the diagnosis of the physician. They claim to make their own diagnosis and it is practically always the same. Why, if any one of you should put yourself in their care you would undoubtedly be found to have a dislocation of the neck. And still I will warrant that it is not your heads which have been turned, but theirs—turned completely around and topsy-turvy into the bargain.

The society, which I have the honor to represent, endeavors to gradually embrace all the reputable practitioners in this mode of treatment. And one of the cardinal points in our declaration of faith is this, that there must be co-operation between the physician and us, that the diagnosis lies outside of our sphere, that we are not prepared for it, and this notwithstanding the fact that most of us have looked far deeper into the etiology and pathology of diseases than these gentlemen with their peculiar notions. When we have got the diagnosis made by a reputable physician, we undertake the treatment in suitable cases, and so far as technique is concerned I have yet to learn of undue influence by the medical fraternity, at least the foremost among them. They recognize that those of us who have made a conscientious study of this matter during several years understand it far better than they themselves, while we bow to them without hesitancy so far as diagnosis is concerned.

It is rumored that an esteemed gentleman here present, Mark Twain, is to speak on the opposite side of this question. I do not know what his acquaintance with osteopathy, so-called, may be, but this I do know, that he himself has gained his first insight and benefit from manipulations and movements not from them but from Swedish gymnasts at Sanna in Sweden.

Let this bill become a law and havoc will be played with the health of the community. You will make impossible the endeavors of our society to raise the standard, so as to become an honor to the country. You will frustrate the plan, now in progress, to found a school where the science and art of this branch of therapy may be taught in accord with the doctrines of science. Defeat the bill and you will uphold our hands, and you will shortly see in New York City a school worthy of the imperial state, a school conducted by citizens of this state, a school which shall put the diploma factories in the west to shame.

7 West One Hundred and Twelfth Street.

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THE EMBRYOLOGICAL BASIS OF PATHOLOGY.

In the Middleton Goldsmith lecture before the New York Pathological Society, March 26, 1901, Minot discussed the relations between pathology and embryology.[1] Embryology and pathology—more particularly pathological anatomy and histology—both deal with problems of development of anatomical forms; and naturally the laws of organization of normal structure must be of fundamental importance to the student of abnormal structure and function. Minot first discussed normal differentiation, beginning with the fertilized ovum, which, though a very complex organization, is an undifferentiated being with a protoplasm of apparently uniform structure, every part of which is capable of producing any or all of the tissues of the adult. During the process of differentiation each successive stage limits the range of possible change, and before long the potential fate of the cells is limited by the conditions of layership, as Minot terms the relations of the cells to the germ layers, the three distinct primary strata—ectoderm, entoderm, and mesoderm (mesothelium and mesenchyma). Each of the three layers has specific functions to carry out in the further work of differentiation and histogenesis. He emphasizes the fact that recent efforts to upset the basic doctrine of the specificness of the cells of the germ layer have failed completely, the conclusions of Klaatsch and others against this doctrine having been based upon erroneous observations.

Differentiation in one direction terminates the possibility of differentiation in other directions so that there is no reversal and no transformation of the cells of one layer into cells with the capabilities of those of another layer. Hence pathological cell processes are still governed, as generally taught, by the law of the specific value of the germ layers. Various types of cell differentiation are recognized: the epidermis, derived from the ectoderm, presents in its basal layers cells that remain embryonal while the cells of the upper layers are more highly differentiated, and in the nervous system, also derived from the ectoderm, certain cells, namely the neurons, lose altogether the power of multiplication. In the mesoderm differentiation attains its highest maximum; here the endothelial cells, the red blood-cells, and the sexual cells are specialized precociously, retaining the embryonic power of proliferation at the same time as they can only reproduce their like. In the case of the connective tissues of the mesoderm, cells are arrested in their development at various stages in differentiation. Minot urges the adoption of mesothelium to designate the epithelial lining of the abdominal and thoracic cavities because it is genetically different from the endothelium of the blood and lymph vessels. Up to this point the changes referred to have all been of constructive character; but they are eventually succeeded by changes of an entirely different nature, namely destructive. These destructive changes fall into three main groups: direct cell death; necrobiosis, or indirect cell death, preceded by structural changes in the cells; and hypertrophic degeneration, or indirect cell death, preceded by growth and structural changes as seen in the uterus after pregnancy. Necrobiosis and hypertrophic degeneration are normal processes, and may play a very important rôle in the life history of the individual. This phase in normal development is but little discussed outside of works on pathologic subjects, presumably because the traditional use of the terms mentioned carries with it the idea that the processes occur exclusively under pathologic conditions. It is seen that the changes, which occur in the death of cells, are nearly identical under normal and pathologic conditions. And the dead cells are removed by the same means under the two conditions, namely, mechanically as by sloughing and shedding, by chemical means (solution), and by phagocytosis. In the absence of a suitable term to designate the entire series of changes, progressive and regressive, of cell-structure, Minot proposes the word "cytomorphosis," which includes " all the structural alterations which cells, or successive generations of cells, may undergo from the earliest undifferentiated stage to their final destruction."

In applying the laws of normal differentiation to pathological processes, Minot dwells especially upon the current classification of tumors, which though based on embryonic grounds permits such errors as placing glioma, an ectodermal derivative, among mesodermal tumors. Several similar inconsistencies are noted. He suggests that carcinoma, now regarded as including a definite form of tumor, probably includes various distinct forms each with its peculiarities according to the layership of the cells from which it springs. From the standpoint of differentiation the cells of the basal layers of the epidermis, of the entoderm, and of certain mesenchymatous derivatives should possess the most marked powers of proliferation, and this has certainly been found to hold good in pathologic processes; for we know that it is precisely in these cells that tumors and other proliferations especially start. Liver cells, muscle cells, and nerve cells have but little power to form tumors because more highly differentiated. It is furthermore emphasized that most if not all pathologic necrobiosis and degenerations of cells are identical with normal processes of cytomorphosis, being pathologic solely on account of abnormality in time and place. Enough has been cited to show that embryology and pathology deal with similar problems of cell life. Both await anxiously the discovery of the causes of cell differentiation and histogenesis. Experimental morphology, the new science, by means of which it is hoped to secure control of cell differentiation, may yet prove of the greatest practical importance in furnishing the physician with the means of attacking a number of diseases at the point of their departure, namely in erroneous differentiation.

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[1] Boston Med. and Surg. Jour., March 28, 1901.

THE PREVENTION OF VENEREAL DISEASES.

Although gonorrhea, chancroid and syphilis are occasionally conveyed through other channels than that of sexual intercourse, such a mode of transmission must be looked upon as exceptional and accidental; and these diseases, therefore, are with propriety designated venereal. That all are more prevalent than is good for the welfare of society, no one will doubt or deny, and despite various attempts, no measure yet applied has proved successful in their prevention. While the actual exciting agents of syphilis and chancroid have not been isolated with accepted certainty, sufficient is nevertheless known with regard to the mode of propagating these diseases, as well as gonorrhea—the exciting agent of which is agreed to be the gonococcus—to indicate clearly the lines upon which their spread is to be prevented and their ravages restricted. While it must be obvious that as a result of such knowledge much can be done to limit infection, by observance of the principles of asepsis and antisepsis the most important prophylactic measure must ever remain avoidance, so far as possible, of exposure to the risk of infection.

As the outcome of an investigation made by a special committee of the Section on State Medicine of the AMERICAN MEDICAL ASSOCIATION, appointed to inquire into the questions whether and when a patient who has suffered from an attack of gonorrhea may be permitted to marry, and whether the matter is a proper one for regulation by statute, an affirmative answer was given to the first and a negative to the second, in last week's JOURNAL. Consent to marry is made permissible only after it can be said positively that in all human probability the patient is no longer infective. In the minds of the Committee, "it is doubtful whether any plan of examination of prostitutes or any plan requiring a report to health authorities of cases of gonorrhea occurring in the hands of general practitioners and specialists can be made practicable."

With regard to syphilis, Dr. L. D. Bulkley (p. 936) makes a plea that, by reason of the injury it inflicts upon the public health, imperilling not alone those who have been guilty of sexual transgression, but also those who are quite innocent, the disease should, like other transmissible diseases, be placed under the control of the health authorities. In the course of a discussion on the "Ravages of the Venereal Diseases," recently held before the Physicians' Club of Chicago, Judge Lorin C. Collins[1] pointed out the difficulty in reaching an agreement as to proper legislation to be enacted for the purpose of controlling and diminishing venereal diseases, and the obstacles likely to be encountered both in its enactment and in its enforcement. In the course of the same discussion, Dr. Edmund Andrews struck the keynote of the situation in urging education of the public upon the subject of venereal diseases, in order that it may for itself realize the dangers, and intelligently apply the preventive and corrective measures, individually and collectively. The wisdom of such a course seems to have been appreciated by the German Department of Education, under whose auspices a series of public lectures on syphilis and gonorrhea has been delivered by prominent authorities at the Charité Hospital of Berlin and which, after publication in the *Berliner klinische Wochenschrift,* are to be reprinted for distribution among the students at the German universities and among the troops. A course of free clinical lectures on syphilis for physicians was begun on March 6 at the New York Skin and Cancer Hospital, to continue on successive Wednesday evenings until May 1.

The question is a most important one, and its regulation is likely to continue, as it has in the past proved to be a most difficult undertaking. It is clear, however, that the desired results are to be secured, not through any single means, but from a combination of all. The most important of these, as striking at the root of the evil, includes a full knowledge of the nature of the diseases, the methods by which they are conveyed, as well as the means by which such conveyance is to be prevented, and the adoption of all possible measures of prophylaxis, moral and physical, together with the most rigorous and systematic treatment in private and public alike.

HISTOLOGIC DIFFERENTIATION BETWEEN TUBERCULOSIS AND SYPHILIS.

At the last meeting of the German Pathological Society an interesting discussion was precipitated by Baumgarten's[1] remarks concerning the differential histologic diagnosis of tuberculous and gummous orchitis. The differentiation of tuberculosis and syphilis is a problem that has a much wider interest than merely that of an examination question in medical schools. Baumgarten points out that quite commonly the macroscopic and microscopic appearances are so typical that the diagnosis is easy, but cases are sure to occur in which difficulties arise. The demonstration of B. tuberculosis is a sure criterion of tuberculosis, but in old, chronic cases of this disease, no matter whether in the testicle or elsewhere, bacilli may not be found in spite of prolonged search, and negative results do not exclude tuberculosis. Syphilis and tuberculosis may occur together, and consequently the finding of tubercle bacilli does not certainly always exclude syphilis. For these reasons the differential diagnosis must often rest on histologic grounds. At one time the giant cell of Langhans was regarded as specific for tuberculosis, but the same cell was long ago described by Baumgarten and others in gummatous growths—or growths so considered. From his extensive studies of tuberculous and gummatous testicles Baumgarten has been compelled to change his opinion, and he now believes that in pure syphilitic lesions giant cells are not present. In this opinion he will probably not find many supporters, but it is based upon the observations that cases with Langhans' giant cells contain tubercle bacilli no matter what the clinical or anatomical appearances are. He suggests the possibility that in some of his cases there were combinations of syphilis and tuberculosis, a very difficult problem to decide because of our ignorance of the virus of lues.

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[1] JOUR. AM. MED. ASSN., March 16, p. 761.

[1] Verh. deut. path. Gesellsch., 1900, iii, 107-121.

What, then, are some of the essential differences between the lesions of tuberculosis and syphilis? Syphilitic lesions consist mostly of small cells, the fibroblasts of syphilis rarely reaching the size of the epithelioid cells of tuberculosis. There are in syphilitic foci no such accumulations of epithelioid cells as in tuberculosis. In the case of the so-called lymphoid tubercle the differentiation is very difficult indeed unless bacilli are found, and they are usually frequent in lymphoid tubercles. While the old vessels disappear and new vessels are not formed in tuberculous foci, syphilitic growths are provided with vessels and capillaries. Syphilitic proliferations may change directly into fibrous tissue, but in tuberculous areas, except in lupus, cicatrization is usually secondary to caseation and absorption of caseous material—a statement to which exception undoubtedly will be taken by many. In gummas, necrosis may occur in the stage of connective tissue formation, an event not yet definitely proved in the case of tuberculosis. The necrosis in gummas is peculiar in that it slowly leads to obliteration of structural details, especially vessels, whereas in tuberculosis structural markings are lost rapidly. In the caseous centers of gummas it may be possible still to recognize the indistinct outlines of the necrotic cells. In the case of the testicle, tuberculosis begins in the walls of the canals of the epididymis while syphilis starts in the interstitial tissue of the testis where primary tuberculosis is exceedingly infrequent. When the syphilitic growth reaches the tubules it causes degeneration of the epithelial cells lining them, whereas tuberculosis induces the epithelium to form giant cells.

In the discussion, Orth and others emphasized the formation in syphilitic lesions of elastic fibers, which are absent in tuberculous foci. Chiari remarked that fibrous orchitis, commonly regarded as of syphilitic nature, frequently is of gonorrheal origin and starts in the canals. This statement seems to have met with general approval. Marchand believes in the direct transformation of tuberculous tissue in mature tissue, and Marchand, Hansemann and others thought that Baumgarten's statement that giant cells do not form in syphilitic lesions went contrary to the facts. Giant cells form in various kinds of connective tissue, that caused by foreign bodies as well as in that caused by specific organisms, hence there is no reason apparent why they may not develop in granulation tissue of syphilitic origin. Baumgarten rejoined that to him Langhans' giant cells were always indicative of tuberculosis, especially in the absence of foreign bodies and larger, evident parasites. But experienced pathologists will have had abundant opportunity to observe that the inoculation in guinea-pigs of tissue containing Langhans' giant cells does not always cause tuberculosis. Giant cells are found frequently in typically syphilitic livers, and in suitable cases of this kind it should be possible to determine definitely by means of staining and by inoculation experiments whether tubercle bacilli are present or not.

THE RAPID DIAGNOSIS OF RABIES.

The time has surely long passed when serious doubt prevailed as to the existence of hydrophobia as a distinct entity. It is unfortunately true that the hypothetic micro-organism of this disease remains yet undiscovered, but the same statement is applicable equally to other disorders concerning whose identity no question is raised, and which it seems perfectly safe to consider as infectious and therefore of micro-organismal origin, as for instance, measles, chicken-pox, scarlet fever, whooping-cough, rheumatism, smallpox, and typhus fever. Even for some of these, causative micro-organisms have been described, but not with the demonstrativeness and constancy necessary to carry conviction and compel acceptance. With regard to rabies, reliance in diagnosis has been placed in the past upon the biologic method, namely the inoculation of lower animals with an emulsion of the medulla of the suspected animal, but the period of incubation is long and valuable time may be lost by the unavoidable delay. Recently, however, two methods have been proposed by which a rapid diagnosis seems possible, and these are described in an interesting communication presented recently to the Pathological Society of Philadelphia by Drs. M. P. Ravenel and D. J. McCarthy[1]

Pollaillon and Nepveu found the entire cerebrospinal axis from a man dead of rabies markedly congested, and the ganglion of Gasser hyperemic and infiltrated with round or oval cells, some hyaline in appearance and believed to be epithelioid cells from the capsule of the ganglion-cells. Balzer and Benedikt observed distension of the vessels of the nervous centers, with escape of erythrocytes and leukocytes into the perivascular spaces. Kolesnikoff described, in addition, an invasion of the pericellular spaces by round cells in the hemispheres, the cerebellum, the spinal cord and the sympathetic and intervertebral ganglia. Schäffer called attention to hyaline and fibrillar degeneration and vacuolation of the cells of the anterior horns of the spinal cord. Finally Babès, who had previously suggested the probable existence of characteristic lesions in the nervous centers, concluded, as a result of numerous observations in dogs and human beings, that the essential lesions of rabies consist in an accumulation of embryonic cells in the neighborhood of the central canal and especially about the large modified cells of the motor centers of the bulb and the cord. Later he pointed out the possibility of making a rapid diagnosis by a microscopic examination of the bulb and the cord and the discovery of the pericellular accumulations of embryonal cells, for which he proposed the name "rabic tubercle." The cells of the bulbar nuclei undergo degeneration and present the various stages of chromatolysis. There occur loss of the prolongations, progressive modification and even total disappearance of the nuclei, dilatation of the pericellular space, invasion of this space and of the nerve-cells by embryonal cells and also small corpuscles, hyaline, brownish and in part metachromatic. Many of the nerve-cells become surrounded by a large zone of embryonal cells, which take the place of completely degenerated cells and constitute the rabic tubercle.

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[1] Proceedings of the Path. Soc. of Phila., March, 1901, vol. iv, No. 5, p. 89.

Later Nélis and van Gehuchten found atrophy, invasion and destruction of the nerve-cells in the peripheral, cerebral and sympathetic ganglia and especially in the intervertebral ganglia and the plexiform ganglia of the pneumogastric nerve by newly formed cells derived from the capsule, appearing between the cell-body and its endothelial capsule. These newly formed cells increase in number, invade the protoplasm of the nerve-cell, and finally occupy the entire capsule. The observations of Nélis and van Gehuchten have been confirmed from a number of sources, including observations by Ravenel and McCarthy in twenty-eight cases of rabies in dogs, rabbits, a cow and a human being. In a large proportion of cases the rabic tubercle of Babès also was found. Similar lesions, although they can not be said to be identical, may be found in association with other toxic and irritative states of the nervous system, so that while they may be considered characteristic and under certain conditions diagnostic, they can scarcely be looked upon as specific. In any event we are thus brought one step nearer the solution of an obscure problem, with increased possibilities in the prevention of a justly dreaded disease.

MALARIA INVESTIGATION IN THE PACIFIC ISLANDS.

Dr. Patrick Manson recently delivered an address before the Epidemiological Society of London, in which, according to the *British Medical Journal*, he said that one of the problems of epidemiology still unsolved is why malaria is present in one country and absent in another, though the climatic conditions in both are the same. Also why the same applies as regards filariasis. He suggested as an explanation that the presence or absence of any malarial disease or filariasis in any particular locality depends on the presence or absence of their respective subserving mosquitoes in sufficient numbers, the presence of the respective mosquitoes being determined not so much by the presence or absence of the essentials for mosquito life, viz., water, adequate atmospheric temperature, and vegetable food, as by the presence or absence of special conditions inimical to special kinds of mosquitoes. Manson suggested a plan for the investigation of this subject in the Pacific Islands, estimating the expense of such an expedition at £2000. Some one who has kept his name a secret, has already contributed one-fourth of this amount, and it is hoped that sufficient funds will be forthcoming for the investigation to be made.

SPECIAL LEGISLATION TO LEGALIZE HUMBUGS.

A bill was recently introduced in the New York legislature exempting a certain individual from the examinations required by the medical practice act. In this case it is said that the favored party was possessor of a certain remedy which he alone knowing its formula could use with great success, and the plea was made in behalf of the people who would otherwise be deprived of its benefits. The legislature was therefore asked to turn itself into a diploma-mill for the benefit of a secret-remedy proprietor. This would have been a very convenient precedent for other similar acts, and the result that the state would have been flooded with medical practitioners by special legislative enactments. In fact, the *New York Tribune* speaks editorially as if more than one such attempt was either made or contemplated, and very naturally and sensibly protests. But, after all, the licensing of one or two individuals to practice medicine without education or preparation is as rational as doing the same for a whole class as was proposed by the osteopathy bill.

THE PROTOZOON OF CANCER.

Elsewhere in this issue of THE JOURNAL will be found an abstract of a recent lecture by Prof. H. R. Gaylord, of the state cancer laboratory at Buffalo, N. Y. In this he announces his success in inoculating cancer by means of the organism described by him in 1899, and which was subsequently found, by Plimmer, also to be present in the majority of cancers examined. The pleomorphism of the organism, which was supposed for a time to be a yeast germ, has hindered its early recognition, but it appears that with the methods now available it can be readily demonstrated by any bacteriologist and its animal nature confirmed. Dr. Gaylord does not claim the exclusive right to be considered the discoverer of this germ. He credits Sjoebring, Pfeiffer, Plimmer, San Felice, and others with having had their share, but he has correlated their investigations with his own and has apparently furnished the demonstration that was heretofore lacking. There is yet much to do before our knowledge of the subject is even approximately complete, but it is a great step in advance when the germs that can experimentally produce cancer have been found. It is possibly not necessary, as Adami has maintained, that they should always be present in the growth, but that they are present seems to be the case, and this being a fact may materially affect the treatment of the disease and render its prognosis more helpful than Adami seems to hold. If their presence is essential it is to be hoped that in studying their life history we may find an antidote to this pest of mankind that seems to be yearly increasing in its destructiveness. A verified discovery of the cancer germ may prove to be one of the epoch-making events of the opening century. It is interesting to note that some of the work leading to this apparent discovery was published nearly ten years ago by Pfeiffer, and has only been very recently recognized in its medical value.

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The remuneration for the physicians who cared for the smallpox cases in Marquette County has been fixed by the supervisors at $20 a day.

Dr. G. Parker Dillon, Grand Rapids, has received an appointment as acting assistant surgeon in the Army, and has been ordered to report at Fort Sheridan, Ill., for duty.

Lansing City Hospital.—This institution will have the following medical board: Dr. Rush J. Shank, chief of staff; Dr. L. Anna Ballard, secretary; Drs. Charles N. Hayden, Lansing; Sidney H. Culver, Mason, and Alden G. Sheets, Eaton Rapids, consulting surgeons; Drs. Harry A. Haze, Alexander D. Hagadorn and G. Franklin Bauch, all of Lansing, attending surgeons; Drs. Frank W. Shumway, Williamston; Thomas M. Sanford, De Witt, and John E. Hinkson, Wacousta, consulting physicians; Drs. John F. Campbell, Freeman A. Jones, Frank M. Thoms and William W. Munn, all of Lansing, at-we may find an antidote to this pest of mankind that seems to be yearly increasing in its destructiveness. A verified discovery of the cancer germ may prove to be one of the epoch-making events of the opening century. It is interesting to note that some of the work leading to this apparent discovery was published nearly ten years ago by Pfeiffer, and has only been very recently recognized in its medical value.

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Saginaw is to have an isolation hospital with accommodation for ten patients.

The Isolation Hospital for Chippewa County is completed and has been accepted by the committee who had the matter in charge.

The remuneration for the physicians who cared for the smallpox cases in Marquette County has been fixed by the supervisors at $20 a day.

Dr. G. Parker Dillon, Grand Rapids, has received an appointment as acting assistant surgeon in the Army, and has been ordered to report at Fort Sheridan, Ill., for duty.

Lansing City Hospital.—This institution will have the following medical board: Dr. Rush J. Shank, *chief of staff*; Dr. L. Anna Ballard, secretary; Drs. Charles N. Hayden, Lansing; Sidney H. Culver, Mason, and Alden G. Sheets, Eaton Rapids, consulting surgeons; Drs. Harry A. Haze, Alexander D. Hagadorn and G. Franklin Bauch, all of Lansing, attending surgeons; Drs. Frank W. Shumway, Williamston; Thomas M. Sanford, De Witt, and John E. Hinkson, Wacousta,
sulting physicians: Drs. John F. Campbell, Freeman A.
Frank M. Thoms and William W. Munn, all of

tending physicians; Dr. Johnson W. Hagadorn, consulting oculist; Dr. Joseph Foster, attending oculist; Dr. Robert E. Miller, attending neurologist; Drs. William A. Davis, Grand Ledge, and John A. Mapes, Dimondale, consulting gynecologists; Drs. Chauncey Barber, Rush J. Shank, Lansing, attending gynecologists; Drs. Gertrude D. Campbell, Mason, and Elwood D. Wilson, Bath, consulting obstetricians; and Drs. L. Anna Ballard, Theodore Cole and Cora P. Ganung, Lansing, attending obstetricians.

MISSOURI.

Kansas City Medical College graduated a class of 43, March 22.

Dr. A. H. Hull, Carthage, recently lost $2500, in office furniture, instruments, etc., by fire.

University Medical College, St. Louis, held its annual commencement April 3, and conferred diplomas on seventy graduates.

Dr. H. L. Walker, St. Joseph, who has had charge of the smallpox cases in the Buchanan County jail, has been appointed jail physician.

Dr. James L. Day, Lebanon, who has been on duty with the Army in the Philippines, will leave Manila, May 1, and return to Lebanon, where he will resume practice.

MONTANA.

St. Peter's Hospital, Helena, was damaged by fire, May 16, to the extent of about $20,000.

Diphtheria is reported to be epidemic among the Kootenai Indians at Dayton Creek; seven died in the last week and the agent fears that the Indians may become panic-stricken and attempt to leave the reservation.

The Smallpox Situation.—In Billings this is improving. There are only six cases in the city and about thirty at the pest-house. There are no cases in the railroad camps, but an isolation hospital has been established at Pryor Gap. At Anaconda, the disease has been stamped out, and the hospital has been closed. During the last two seasons 424 smallpox patients were treated, only five of whom died.

NEBRASKA.

Dr. Julius Lingenfelder, West Point, sailed for Hamburg, March 30.

Dr. Augustus Anderson, Norfolk, has also left for Europe, to take post-graduate work at Berlin.

Osteopathy has received the stamp of approval by vote of the legislature, but the bill has not yet been signed by the governor.

NEW JERSEY.

Several new cases of diphtheria have been discovered in Gloucester county during the past week.

Dr. William H. Shipps, Bordentown, has been appointed a member of the State Board of Medical Examiners.

Dr. Joseph Doherty, the new resident physician at the Atlantic City Hospital, assumed charge of the institution on March 25.

Dr. Louis A. Denis, West Hoboken, and Edward C. Armstrong, Weehawken, have resigned from the medical staff of the North Hudson Hospital, Union Hill.

NEW YORK.

Dr. Joshua E. Sweet, Unadilla, who has been studying in Germany for several years, has obtained his doctorate degree and is now taking a special course in bacteriology at the Pasteur Institute, Paris.

Batavia Hospital is now assured. The $10,000 asked for has been obtained and this will insure about $2000 additional, which was subscribed on condition that the former amount be first raised. The site has been purchased and the plans prepared, and the work of construction will be in progress in a short time.

Buffalo.

Dr. James E. King recently sailed for Europe to spend six months in study.

Dr. Edward E. Blaauw has been appointed editor of Dutch ophthalmic literature in the *Annals of Ophthalmology*, in the place of Dr. Wendell Reber, resigned.

New York City.

Indicted for Neglect.—J. D. Pierson, a strong believer in healing by faith, has been indicted, and held in $1000 bail for trial, charged with violating the penal code in neglecting to furnish medical attendance for his 2-year-old child, who died from pneumonia.

Scarlet Fever.—This is very prevalent in this city at present, though it is of a milder type than last year. Since January 1 4959 cases have been reported, distributed in the different boroughs as follows: Manhattan, 3175; Brooklyn, 1382; Bronx, 278; Queens, 77, and Richmond, 47. An unusually large number of adults have contracted the disease, which has been quite evenly distributed among the tenements and among the better classes.

Control of City Hospitals.—The committee has reported favorably on the plan to change the management of the city hospitals. The bill provides that the control of Bellevue Hospital, and the Fordham, Harlem, Gouverneur and the Emergency hospitals shall be vested in a board of trustees of seven members, together with the Charities Commissioner, appointed by the mayor from lists presented by the United Hebrew Charities, the special council of the Society of St. Vincent de Paul and the New York Association for Improving the Condition of the Poor.

Power of "Christian Scientists."—Some idea of the power of this cult may be gained from a reported statement of a member of the legislature, to the effect that in their efforts to defeat the so-called "Bell" bill they went into the district of every member of the Assembly, developed to the utmost there the "Christian Science" sentiment, and then coolly informed the representative of such district that if he did not vote against the bill he would not be returned to the assembly. It was said that this threat was accompanied by a statement of the number of votes controlled by the "Christian Scientists," with means for verifying them.

Alleged Hospital Abuses.—Sensational charges have been made by a wealthy importer, against the city's smallpox hospital on North Brother Island. His statement, given out to the newspapers, is specific and circumstantial, but comprises briefly assertions to the effect that while he was an inmate of that hospital, from March 9 to March 22, the bedding in several wards was in a horribly filthy state; that there was but one attendant—and that untrained—for twenty-six patients in the acute ward at night; that the patients were not given sufficient food; that they were roughly treated when being taken from the steamer dock to the wards; that disinfection was perfunctory, and that the health board inspectors took little precaution against carrying the disease back to the city. On the afternoon of the day these charges were published representatives of several newspapers accepted the invitation of the president of the board of health to accompany him on a tour of inspection of this hospital. The reports of these visitors have failed to substantiate the charges and assert that there was little or nothing to justify the suspicion that preparations had been hastily made for this visit of inspection. On the other hand, Mr. Martin stoutly asserts that one of the hospital employes, whose name he has given, has informed him that a warning was sent to the hospital, and that every possible preparation was made before the inspection, even to the extent of routing night nurses out of bed and putting them at work in order to refute the charge of not having sufficient nurses.

OHIO.

Dr. John L. Hervey, Martin's Ferry, has been appointed surgeon of the Wheeling Terminal Railway Company.

Dr. David B. Stener, president of the Cleveland city council, will go abroad early this month to study in Germany for two years.

PENNSYLVANIA.

Damages for Smallpox Scare.—Julius Law, a citizen of Allegheny, has entered suit against the city to recover damages resulting from placarding his house with a sign announcing the presence of smallpox which the plaintiff alleges was not smallpox. The man kept a grocery store and the house was placed in quarantine, and he desires to recover damages resulting from loss to his trade.

Diphtheria at Parryville.—This small town, five miles from Mauch Chunk, is threatened by an epidemic of diphtheria and officers of the Board of Health have ordered the public schools closed and many of the books, maps, charts, and other supplies furnished the students will be burned. The town was visited last year by a serious epidemic of the disease, and more urgent measures will now be taken to prevent its spreading.

Philadelphia.

The Jewish Hospital Association will receive the estate of Edward Weinberg, recently deceased—$1000.

The Germantown Almshouse will abolish the system of having three outside physicians, and the township has been placed in charge of Dr. E. Sherman Clouting.

Reception to Dr. Dana.—The Philadelphia Medical Club, on March 29, tendered a reception to Dr. Charles L. Dana, of New York. Previous to the reception Dr. Dana was entertained by Dr. Edward L. Duer, president of the club. Among other guests present were Drs. William W. Keen, J. H. Musser, James Tyson, Dr. Wharton Sinkler, Hobart Amory Hare, Guy Hinsdale, James M. Anders, and S. Naudain Duer.

Examination of Eyes and Ears of School Children.—A movement has been set on foot by Drs. Samuel D. Risley, Edward Randall and others, together with the corps of school medical inspectors whereby it is hoped the Board of Education will adopt a plan to have examinations made of the eyes and ears of all pupils attending the public schools. To a certain extent this has already been done by the corps of volunteer medical inspectors, but the work has not been satisfactory, since a great amount of time is required to do this work thoroughly. It is hoped that school medical inspection will be put on a paying basis, and that the above work can be instituted, beginning with the fall term. Up to this time both branches of city council have entirely ignored the work of the school medical inspectors.

TENNESSEE.

Tennessee Medical College, Knoxville, graduated a class of 40, April 1.

Fire at Sparta caused a $500 loss to Dr. D. R. Gist, and a similar one to Dr. James H. Snodgrass.

Dr. Frank P. Dance, Lynchburg, has been commissioned captain and assistant surgeon of volunteers and ordered to report at Hongkong for assignment to duty.

The University of Nashville held its commencement exercises March 29 and graduated a class of 75. The faculty address was delivered by Hon. James M. Head.

The alumni meeting and banquet of Tennessee Medical College, Nashville, was held March 25. After reading of papers, and clinics, Dr. Perry Bromberg was elected president; Dr. William R. Sifford, vice-president, and Dr. Robert L. Hayes, secretary, all of Nashville.

TEXAS.

Dr. Walter F. Blunt, Austin, state health officer, has been obliged to resign on account of continued ill-health.

Dr. John A. Jones, Ferris, has been appointed health officer of Ellis County, vice Dr. Charles W. Simpson, Waxahachie, resigned.

Smallpox is reported in epidemic form at Thurber Junction, an eating station on the Texas and Pacific Railway, where 23 cases exist. At Brenham, Dr. John B. York, health officer reports that he has 20 cases under treatment.

Farm for Consumptive Convicts.—A little over a year ago the state penitentiary authorities established a farm for consumptive convicts, about two miles from the Huntsville penitentiary. Large, airy and comfortable quarters were given these invalids, and they were required to do such light work about the farm as they were able. The result of the experiment has been highly satisfactory to the prison management in every respect. Many men who went to the farm, apparently in the last stages of consumption, are now hearty and stout, evincing not the slightest objective evidence of consumption, and the death-rate from the disease is steadily diminishing. The plantation is made self-supporting by this invalid labor.

UTAH.

Dr. Andrew J. Hosmer has been appointed surgeon to the Holy Cross Hospital, Salt Lake City, vice Dr. F. A. Meacham, resigned.

The Axton bill, which authorizes state and local boards of health to make and enforce regulations against malignant and contagious diseases, was unfavorably reported on.

Dr. George H. Penrose, Salt Lake City, who went to the Philippines with the troops from Utah, has been made major and surgeon of volunteers. He is at present in this country on sick leave.

New Quarantine Law.—The legislature has passed a law quarantining against smallpox and other contagious diseases, which so amends the statute that the quarantine shall be for at least twenty-one days, and includes whooping-cough, placing it on the same basis as scarlet fever or smallpox, except that no flag need be displayed.

WEST VIRGINIA.

Marshall County now has a board of health consisting of Dr. John N. Alley, Benwood, president, and Drs. James E. Cooper, Cameron, and Isaac N. Houston, Moundsville.

GENERAL.

San Francisco's Plague.—The U. S. Marine-Hospital Service has just published a summary of the plague situation in San Francisco as derived from the report of the commission of experts which recently concluded its investigation of plague conditions in that city. Ten cases of plague have been officially reported in San Francisco since January 1, all fatal. Six of these were reported by the special commission in February. The report says that the disease has been officially reported in San Francisco since March 6, 1900, the total cases to date being 32, all fatal. All of these were reported in detail in The Journal at the time of their occurrence. Following the work of the Commission, Surgeon J. H. White, of the U. S. Marine-Hospital Service was given control of the situation, as a result of a compromise between the California state officials and the Marine-Hospital Service, and the general disinfection of Chinatown and the betterment of light and air space is being provided for, also a suspect hospital, detention houses and morgue. The report says that the disease has been confined almost exclusively to the Chinese, and that the prevailing type is the bubonic, which, while mildly contagious, may give rise to graver forms and emphasizes the necessity of prompt and thorough measures to eradicate the disease.

CANADA.

Dr. Crockett has been elected mayor of Frederickton, N. B.

The Diet Dispensary, Montreal, held its annual meeting last week and appointed regular officers.

Bishop's College, Montreal, has added a course of lectures on the treatment of accidents and simple surgery. Dr. W. Russell Thomas has been appointed the lecturer on the subject.

The contagious diseases report for March, for Toronto, is as follows: Diphtheria, 77 cases; scarlet fever, 57; typhoid fever, 6. The figures for February were: Diphtheria, 91; scarlet fever, 37; typhoid fever, 2.

Appointment.—Dr. Manchester, a graduate of McGill University, who was at one time assistant to Dr. Burgess at the Verdun Hospital for the Insane, has been appointed superintendent of the Asylum for the Insane at New Westminister, B. C. Dr. Manchester has been assistant superintendent at that institution for the last three years.

Hospital Change.—In regard to the act at present before the British Columbian legislature, to incorporate the New Westminster Royal Columbian Hospital, a deputation recently waited on the city council of New Westminster asking that no medical superintendent be appointed and that the name be changed to the Westminster General Hospital.

Toronto's Hospitals.—The various hospitals of Toronto were not so great a drain upon the city in 1900 as they were in 1899. The city's assistance to charity patients consists of 40 cents a day per patient. The total amount given in that way in 1900 was $30,829, as against $37,238.05 in 1899. Of this sum the Gravenhurst Sanitarium got $104.80. Other charitable institutions received $43,895 or $3500 more than in 1899. In the latter sum an amount of $7500 appears for the Sick Children's Hospital.

Smallpox Circular.—The Ontario Board of Health has issued a circular to the physicians of the province, medical health officers, and members of local boards of health, on the diagnosis of smallpox. This is the outcome of the alarming spread of this disease during the past month, and the fact that some mild cases have been diagnosed as chicken-pox has also something to do with the sending forth of the circular. It is illustrated with confluent, semiconfluent, and mild smallpox, as well as chicken-pox. The circular is signed by the committee on epidemics, Drs. H. E. Vaux, Peter H. Bryce, J. J. Cassidy and William Oldright.

Labrador Hospitals.—Dr. W. T. Grenfell, deep sea missionary and captain of the hospital-ship *Strathcona*, who has spent eleven years among the fisher folk of Labrador, recently addressed a public meeting in Montreal. Speaking of the hospital work in Labrador, Dr. Grenfell said that there were three hospitals, one at Battle Harbor, another at Indian Harbor, and a third now in course of erection at St. Anthony, on the north French shore. In addition to these there is the steamship *Strathcona*, equipped with six beds, and all the necessary appliances, including the *x*-rays, cruising up and down the coast. There are two female nurses, and men qualified in every way for the work. Last year 1020 cases were handled on the ship; and there were 62 in-patients at Battle Harbor, and 37 at Indian Harbor. Dr. T. G. Roddick has given great assistance to this work. Dr. Grenfell returns to Labrador about the middle of May.

Peculiar Quarantine.—There exists in the northwest territories of Canada a very peculiar quarantine. For some time a very unusual condition of affairs has prevailed among the settlers of the Edmonton and Calgary districts. There has been an epidemic of a disease which approaches so nearly to smallpox that two of the doctors in that district aver that it is that disease. Others say that it is either German measles or chickenpox; and this diagnosis seems to be the correct one, from the fact that though there have been over 1000 cases, no deaths have been recorded. The health officers appointed by the Territorial Government stand at the ticket wickets as people are buying their tickets between Edmonton and Calgary and present certificates to every one so purchasing, and then demand $1, and sometimes $2, for these. Armed with one of these certificates, a traveler can come and go as he likes, though he is supposed to be in quarantine all the time.

Dowie Practice by Wire.—Death and "Dr." Dowie (in the spirit) recently appeared in Scot's Bay, Kings County, Nova Scotia. This village is said to boast of a disciple of every religion known, and of course had its Dowieite. Ten days after confinement, his wife, who had not been attended by any physician, did not appear to be doing as well as she ought to be at that period, so the wires were put in touch with Dowie's Chicago "prayer office," with instructions to reply, collect. As there was no answer (Dowie was cautious), another message was sent, with return prepaid. Dowie now telegraphed a "prayer," and was answered: "a little better, pray again." He did and wired that at a certain time (Chicago) he would be found working as usual for the Scot's Bay disciple. The woman died, probably as Dowie was committing his specified sacrilege. The whole affair has created great excitement and indignation, and even the Toronto lay press has been most outspoken on the aspects of the case.

LONDON.

The Army Medical Service in South Africa.

Speaking at the annual dinner of the Hunterian Society, Sir William MacCormac, formerly consulting surgeon to the army in South Africa, said that neither he nor Mr. Treves attached much importance to criticisms which had been levelled at them of having deliberately misrepresented the conditions in South Africa. Their critics had no proper conception of the requirements of war. The work of the army medical corps had been extremely good under extraordinary difficulties. There were only 800 officers where there ought to have been 1200. It is now suggested in high quarters—which was most deplorable—that the fault lay with the officers. One of two things must be done; either the medical department of the army must be done away with altogether, or, if it is retained, it must be placed on a better footing. Medical officers must be placed on a higher status. Their chief is not accorded the high place he should occupy and which he occupied in other countries. The chief of the German army medical corps occupies a very different position. So far this is quite right. But it is a pity that Sir William MacCormac had not the courage of his convictions to fix the blame on the right shoulders—the war office—which has so bungled in this campaign, both as to medical and military matters. The attempt to fasten the responsibility on the army surgeons is not merely the desire of the military authorities to protect themselves. The army medical service has ever been treated with as much contumely as possible by them, simply because it consists of a body of men who live by their profession and are not fashionable idlers of the upper classes who enter it for the sake of the *eclat*.

The Infectiveness of the Dust of Houses Inhabited by Consumptives.

Careful investigations on this subject have been made by the Manchester corporation. They were carried out in: 1, houses in which a consumptive lived who was taking no precautions to dispose of his expectoration; 2, houses which were very clean but in which there was a patient who was not sufficiently careful, and 3, in very dirty houses in which there had been no case of tuberculosis for some years. Samples of dust were taken from various situations in the room in which direct infection with sputum was impossible. The dust was mixed with sterilized water and inoculated into guinea-pigs. In many cases the animals died within forty-eight hours, from septicemia. Those which survived were killed after a month and found to be affected with tuberculosis.

The Sanitation of West African Coast Towns.

Mr. Chamberlain, the colonial secretary, has received an influential deputation consisting of Professor Boyce, Major Ronald Ross, and others, representing the Chambers of Commerce of London, Manchester and Liverpool, and the Liverpool Tropical School of Medicine, who submitted the following requests: 1. That the governments of the various colonies on the West Coast of Africa be invited to prepare schemes with estimates for the complete organization and sanitation of the ports occupied permanently by Europeans, especially with regard to: *a*, removal and disposal of refuse; *b*, surface drainage and removal of bush and undergrowth; *c*, removal of native huts where their presence is a menace to Europeans; *d*, institution of sanitary regulations for the people. 2. That sanitary commissioners be appointed to visit repeatedly these Colonies and report on their sanitary condition. 3. That where new settlements are being planned quarters for Europeans be arranged as far as possible on the Indian cantonment system.

In reply, Mr. Chamberlain said that he feared that a gigantic system of sanitary inspection of the houses of natives as well as Europeans would be too costly. The questions of water-supply, sewage and other points are receiving the careful consideration of the government. He proposed that the chambers of London, Manchester and Liverpool should each appoint a member of a commission to which the colonial office would add one as secretary, and that a scientific expert would accompany it. If these commissioners would show him how to govern the colonies with less excessive expenditure of life and health he would be much obliged.

The Conflict Between the Medical Staff and the Board of the National Hospital for the Paralyzed and Epileptic.

This unseemly quarrel, which has lasted a considerable time and has produced a controversy in the columns of the *Times* for nearly twelve months, is no nearer a solution. It may be remembered that the medical staff complained of certain defects in the administration of the hospital, such as an inadequate supply of nurses and defective diet of the patients, and that they requested to be allotted two seats on the board as a means of preventing such evils. This very modest request for two seats on a body of twelve has been persistently refused on the flimsy pretext that as the members of the medical staff were officers of the hospital their conduct might be called in question and become the subject of investigation by the board, and thus they would be in the position of judging their own case. The staff then demanded an inquiry into their charges of mismanagement, by an independent body. The board acceded to this and appointed a distinguished lawyer to investigate the matter. But the terms of reference were carefully drawn up so as to exclude proper investigation of the crucial questions, the staff declined to be parties to the inquiry, and it fell through. So the *imposse* continues and the most brilliant staff that ever gave its services to a hospital—men of world-wide reputation who have played a great part in the creation of the science of neurology—Hughlings-Jackson, Gowers, Ferrier, Buzzard, Bastian, Semon, Victor Horsley, etc., have been driven to the verge of collective resignation, and are overruled on purely medical questions by a lay body. But the real source of the difficulty is a certain secretary-director, a paid official who has been placed in the extraordinary position of both servant and master of the institution. All power seems to be concentrated in his hands and the board has become simply his puppets. His latest arguments in the *Times* do not require confutation in a medical journal. He alleges that in consequence of the prejudices of the public against vivisection, and the reputation of certain members of the staff for experiments on animals, an impression has arisen that the hospital might be turned into a scientific laboratory if the staff attained administrative power. Moreover, he fears domination by the staff—domination by two on a board of twelve! The struggle has now reached an acute stage. Unless the very reasonable demand of the staff is conceded, the members will certainly collectively resign, and the foremost position of the hospital will be lost. As Sir William Broadbent points out, secretary-directors and governors are cheap and can easily be replaced, but such men as comprise the present medical staff are irreplacable.

PARIS.

Researches on Leprosy.

Dr. Jeanselme, physician of the Paris hospitals, was sent some time ago by the French government to investigate the sanitary condition of the native population in the French possessions of Tonkin and around Saigon, and he has published in a recent number of the *Presse Médicale*, the result of his researches on the prevalence of leprosy. One fact is of striking importance; no measures have been taken so far in the French possessions to stop the spread of this malady. In Saigon itself and the surrounding country there are about 3500 lepers, and one should also take into consideration the fact that a great number of nervous forms escape attention. Along the shores of the Annamite province there are several small centers of leprosy, and at Hanoi, the capital of Tonkin, there is an important settlement which is more or less included within the city. Further up the Red River, there are several villages where a few cases are to be found, but it is a well-recognized fact that the number of cases is in direct correlation with the density of the population. In Burmah there are quite a number of cases, and at Singapore it has been found necessary to establish a special colony for the victims of this disease. On the upper stretches of the river Mekong, the number of lepers is much smaller and they are strictly isolated from the rest of the population, being obliged to live on a raft or on sandbanks in the river. It is often found that the disease was unknown until the advent of a Chinaman, who has been the focus of an epidemic around his abode, infecting first of all his own family and then those who came into contact with the different members thereof.

Treatment of Anorexia.

A new drug for anorexia has been recommended bq Prof. Albert Robin, of Paris, as well as previously by Drs. Nicolas and Garel, of Lyons. It has been called "persodin" and is formed of a mixture of persulphate of sodium and ammonium. This body, persulphate of sodium, is by itself unstable, but by combining it in a certain proportion with persulphate of ammonium, a compound body may be produced which will remain unaltered. This drug is a faily good antiseptic, as has been shown by Drs. Nicolas and Garel, and injected into the intravenous system of the guinea-pig or dog it produces death. As an agent for increasing the appetite, it has been found beneficial in the treatment of tuberculous patients, for anemia, hysteria and neurasthenia. The dose recommended is 5 to 20 cg. of the compound persulphates, making, therefore, in solution about 5 to 10 grains. This drug should be given in a small quantity of pure water about an hour or an hour and a half before the ingestion of any solid or liquid food.

Depopulation of France.

The depopulation of France has drawn the attention of medical men, as to the cause and a remedy. In 1870 the population was increasing by 2.57 units per thousand in France, 7.16 in Austria, 7.26 in Italy, 10.33 in Germany and 12.18 in England. At present the gain is only 0.81 in France, 10.6 in Austria, 10.7 in Italy, 11.2 in England and Russia, and only 15.6 in Germany. This shows how rapidly France is being surpassed in population by other nations, and it is of importance to know what can be done to counteract this tendency. The increase in the number of births is one that is more a question of ethics, but as for the death-rate of infants, a book, recently published by Senator Strauss, called "Depopulation and Puericulture," tends to show what might be done in this line. Public opinion has not as yet been awakened to the importance of the principles of social hygiene, and a great deal has yet to be done in France as elsewhere.

Administration of Phosphorus, Iodin and Turpentine.

Some experiments, made recently by Dr. Hulot, and Dr. Ramond, of Paris, would tend to show that phosphorus and iodin combined with turpentine, may be administered in large doses without causing symptoms of poisoning. It is a well-known fact that turpentine is an antidote to phosphorus. According to the researches of Jonas, Köhler, Rommelaëre, Moreau and Fort, there are two combinations formed: hypophospho-diterebenthic acid and hypophospho-monoterebenthic acid. To produce this body one should take 300 grams of essence of turpentine and add 5 grams of white phosphorus, cut up into small pieces. This mixture should be kept for twenty-four hours at an average temperature of 45 C. or during six days at the temperature of the laboratory. The product obtained contains about 6.5 per cent. of phosphorus and is found to be a sort of resin of a light amber color, transparent and presenting an agreeable odor. Two grams have been given to guinea-pigs, 4 to a rabbit and, on these animals being examined two or three weeks' later, no lesion was found. Two tuberculous patients were given pills containing from 0.75 to 1 gram of this product, which makes about 65 mg. of phosphorus, and no morbid reaction followed. The quantity of phosphorus in the urine of each patient increased to double the previous amount, and the general health of one of the patients seemed improved. When iodin is combined with turpentine, there is production of heat, so that this body should be added in small fractions to the turpentine. The result is a greenish-brown resin with an agreeable odor, insoluble in water, but soluble in alcohol, chloroform and ether. As much as two grams of iodin were given to some guinea-pigs without any noticeable result. Some patients were given daily a gram of iodin, without showing any symptoms of iodism. About 80 per cent. of the iodin was eliminated, and the therapeutic action seemed to be that of iodid of potassium, but more extensive researches are needed.

Anniversary Celebration.

The Association of Internes and Former Internes of the hospitals of Paris will hold a celebration next year in honor of its foundation in 1802. At that period there were special physicians and surgeons for the hospitals, but there were no students attached in any special manner to each service. The position of interne has remained in many ways what it was in 1802, but the number has increased noticeably. There were thirteen named at first, but since then the number has increased so that now there are about 260 to 300. All the notable medical men in France, with but few exceptions, have been internes of the Paris hospitals, where they have worked four years before graduating.

FOREIGN.

The wine-growers of France have bestowed a handsome medal on Dr. E. Mauriac, of Bordeaux, for his work entitled "The Defense of Wine and the Campaign against Alcoholism."

Hypnotic Practice has been forbidden, except by medical men and under special permission, by the Hungarian government, on account of the number of crimes attributed to hypnotic influence there.

The newly-organized chairs of gynecology and surgery of children, at Paris, have been bestowed on the agrégés, Professors Pozzi and Kirmisson. Bouilly and Segmond were competitors for the first chair and Brun and Broca for the second.

Silver Jubilee Number.—The *St. Petersburger Med. Wochenschrift* for March 19 is a large souvenir number. This journal has been an important means of communication between Russia and the outside world, as it is published in German.

Campaign Against Tuberculosis.—An international bureau for the campaign against tuberculosis has been organized at Berlin, the outcome of the executive committee of the Antituberculosis Congress, whose task was not completed with the Congress, but has continued to date and is now thus officially remodeled. The headquarters of the "Internationales Centralbureau für Tuberkulosebekaempfung" are at Wilhelmsplatz, 2, Berlin, W.

Zinc Oxid in Painting.—The painters' syndicate of Paris has been officially notified by the municipality that henceforth zinc oxid must be used instead of lead carbonate in painting, and that contracts must specify this fact. The regulation will be strictly enforced. The toxicity of lead carbonate has been fully established, as The Journal mentioned at the time of Laborde's recent communication on the subject to the Paris Acadêmie de Médecine.

Organotherapy in the Paris Hospitals.—The authorities have consented to the demand of the hospital physicians to be supplied with organ extracts, etc., for organotherapy. They request the physicians to be moderate in the use of very expensive medicines of this kind and call for those only that are actually needed. They are enquiring which makes are desired, and whether it will not be possible for the central laboratory of pharmacy to supply them in time.

Classical Training for Medicine.—The German *Medicinische Gesselschaft*, the largest scientific association in Germany, has petitioned the government to require a classical training as heretofore, of applicants for a course of medicine. In four days seventy other medical societies officially signed the petition, and an effort is being made to induce the authorities to refrain from admitting graduates of the technical schools to the medical course without further preparation.

Progress of the Plague.—The last official plague returns—those for the week ending February 23—for all India, gave 6309 deaths, or 399 more than the previous week, 221 of this increase occurring in Bombay City, with a total of 1118 cases for that city for the week. Every portion of the city is reported affected. In Bengal, for the same period, the plague deaths numbered 4066, or an increase of 453 over the preceding week. In Calcutta they numbered 287 as compared to 233 for the previous week. In Mysore State the deaths were only 527 or 91 less than the previous week. Vigilant steps have been taken for some time at Southampton, to detect plague on board vessels arriving from the Cape. A few days ago a transport reported a Lascar to be ill. He was removed to the hospital ship in the river and placed under observation. It now transpires that he is suffering from plague in a mild form. Every possible means is being taken to prevent the spread of the scourge. The transport in which he came home has been taken down the river, battened down, and thoroughly disinfected. Steps will be taken to insure the destruction of every rat in the ship. It is thought that the infection was conveyed by rats as the man was not ashore at Cape Town. The military authorities are co-operating with the port medical officer in adopting precautionary measures; a barracks has been set aside in a convenient locality for the reception of possible cases. Plague seems to be establishing itself in Cape Town. For the week ending March 16 there were 81 cases admitted to hospital, 29 deaths, 17 suspects and 402 "contacts." Inoculations against plague are being freely practiced. Some 2000 natives were inoculated on March 14. Owing to the increasing gravity of the epidemic the authorities contemplate confining the soldiers to barracks. The proportion of European cases is increasing. In one day there were 4 of these to 8 among colored persons.

Association News.

Preparations for the St. Paul Meeting.—Those who desire to attend the meeting in St. Paul, need have no fear that the city will be overcrowded, or that there will not be sufficient good accommodations for all. The people of St. Paul are making extensive preparations to take care of the visitors, all will be provided for. A program of entertainment for the ladies is being arranged. St. Paul has quite a reputation as a convention city, and there is yet to be heard complaint of the management or lack of accommodation. St. Paul has a number of first-class hotels, several of which are situated in the business district, while others are on the hill in the residence portion of the city, and many of the citizens will be glad to open their houses to the city's guests. The women of St. Paul have already formed committees, made preliminary arrangements, and are preparing to help make this year's meeting of the American Medical Association a memorable one.

A New York Special to St. Paul.—Arrangements are being made for a special train from New York to the St. Paul Meeting, to leave New York City, Saturday, June 1. Parties who wish to use this train in making the journey will communicate with Dr. F. H. Wiggin, 55 W. Thirty-sixth street, New York City, for further information.

Correspondence.

La Grippe or Rabies.

Asheville, N. C., March 26, 1901.

To the Editor:—I have noticed in The Journal at different times, reports of rabies prevailing as an epidemic. It was reported as epidemic in Dawson during January, and as prevailing in Minnesota, at different points. During the past nine years I have had considerable clinical experience while watching the progress of a disease among the canines, which can be most easily mistaken for rabies. This affection prevailed here, and in other parts of the state, as an epidemic several times during the period above mentioned; besides, there have been many sporadic cases from time to time. I refer to la grippe in the dog. During one fall and winter I saw forty cases in our little city and suburbs. In a paper written for our local society, and published in the *Charlotte Medical Journal* (July, 1900), I attempted to give the results of my observations, in a comparative study of the disease in the human and canine subject. I feel that this is a matter of the gravest importance, that two forms of this disease are so like the two forms of rabies as to make it quite possible to confound them, at the cost of unnecessary alarm in the community where the disease prevails, and unnecessary suffering to the animals. Can it not be possible that where the clinical history and symptoms seem identical, that the same pathological changes may be found in the medulla? Or is it not possible that the micro-organism of la grippe may produce the same or similar changes? Two well-defined types of la grippe in the dog can not be distinguished from rabies unless the microscope can determine the difference. Two different causes may produce the same affect. Can not, therefore, two different micro-organisms produce the same pathologic changes? I believe that at Dawson and in other places they have been having an epidemic of la grippe among the dogs. Very respectfully,

A. M. Ballard, M.D.

Married.

N. Monroe Dodson, M.D., to Miss Agnes Bendick, both of Berlin, Wis., March 25.

Cora E. Brown, M.D., Dawson Springs, Ky., to L. E. Lutz, at Paducah, Ky., March 20.

William Commodore Cauble, M.D., Salem, Ind., to Miss Harriett Banks, of Hooker, Ind., March 31.

Howard R. Weirick, M.D., to Miss Dorothy Herrick Compton, St. Paul, Minn., at Duluth, Minn., March 21.

Byron H. Caples, M.D., Waukesha, Wis., to Miss Grace H. Stelle, of Washington, D. C., at Milwaukee, March 23.

Deaths and Obituaries.

William Taliaferro Hord, M.D., medical director, U. S. navy, retired, a graduate of the University of Pennsylvania, Philadelphia, 1853, died at his home in Washington, D.C., from diabetic gangrene, April 1, aged 70. He was born in Kentucky and was appointed to the navy soon after his graduation. He served during the Crimean and Civil wars; became fleet surgeon in 1872 and was made medical inspector in 1879. He was three times a delegate from the navy to the American Medical Association, and was a vice-president of the International Medical Congress in 1887. He was retired in 1893.

G. M. B. Maughs, M.D., Missouri Medical College, St. Louis, 1849, a pioneer practitioner of St. Louis, mayor of Kansas City in 1860, a surgeon and president of the Confederate Board of Examiners, a member of the St. Louis Medical Society for thirty years, and in 1879 president of the Missouri State Medical Society, died at a sanatorium in St. Louis, March 23, aged 80.

John Henry Hobart Burge, M.D., New York University, 1848, died March 24, at his home in Brooklyn, N. Y., aged 77 years. Shortly after his graduation he established the first hospital in California, at San Francisco. This work completed, Dr. Burge returned to Brooklyn, where he pracitsed for fifty years. He was a member of the American Medical Association.

Stephen B. Bennett, M.D., Rush Medical College, Chicago, 1859, who had practiced in Fairview and Canton, Ill., for more than forty years, and was coroner of Fulton County in 1878, and an active promoter of the movement for a public hospital, died at his home in Canton, from pulmonary tuberculosis, March 1, aged 62.

Charles N. Fowler, M.D., Western Reserve University, Cleveland, 1850, major and surgeon of volunteers in the Civil War and a prisoner in Libby prison, one of the most successful practitioners in Northeastern Ohio, died at his home in Youngstown, Ohio, March 19, aged 73.

Ralph J. Hess, M.D., Cornell University, New York, 1900, died at North Brother Island, N. Y., March 24, from scarlet fever, aged 27. He was attached to the house staff of Bellevue Hospital and was removed to the Isolation Hospital from the Willard Parker Hospital.

Mary S. West, M.D., Woman's Medical College of the New York infirmary, 1879, died suddenly from apoplexy, at her home in New York City, March 24, aged 61. She was born in England, and had practiced in New York for more than twenty years.

S. R. McClanahan, M.D., University of Pennsylvania, Philadelphia, 1859, a prominent physician of Calpeper County, Va., and at one time a member of the state legislature, died at his home at Brandy Station, Va., March 19, from paralysis, aged 65.

Augustus E. Hoeltge, M.D., Medical College of Ohio, Cincinnati, 1860, a member of the American Medical Association, a veteran of the Civil War, and a prominent physician of Cincinnati, died at his home in that city after a long illness, March 26.

George M. Fisher, M.D., University of Maryland, Baltimore, 1862, who had practiced medicine at Denton, Md., for several years, died after a long illness at his home in that place, from lung disease, March 21, aged 67.

John B. Busteed, M.D., College of Physicians and Surgeons, New York, 1892, died March 11, aged 31. He went to Corea as a medical missionary in 1893, but returned to Brooklyn, N. Y., in 1897, suffering from phthisis.

James A. Roseberry, M.D., University of Cincinnati, 1882, who had practiced at Forrest for several years, died at his home in that place, from carcinoma of the intestines, after a long illness, March 24.

Kelon H. Long, M.D., University of Louisville, 1893, a practitioner of Humboldt, Neb., who was forced to leave that place on account of his health a year ago, died at Jasper, Mo., March 23.

Herbert K. Tefft, M.D., Bellevue Hospital Medical College, New York City, 1873, who had practiced for twenty-five years in Topeka, Kan., died at Los Angeles from Bright's disease, March 11.

George W. C. Wren, M.D., the University and Bellevue Hospital Medical College, New York City, 1899, died March 23, at St. Vincent's Hospital, New York, from typhoid fever, aged 27.

F. G. Mason, M.D., University of Nashville, Tenn., 1859, who had practiced for many years in Dyer County, died from paralysis at his home in Newbern, Tenn., March 19, aged 67.

George W. Williams, M.D., Northwestern University Medical School, Chicago, 1873, died at the City Hospital, Aurora, Ill., from carcinoma of the stomach, March 23.

Joseph H. Binney, M.D., Medical College of Indiana, Indianapolis, 1878, of Fullerton, Neb., died at his home in that place, March 26, after a prolonged illness, aged 54.

A. G. Hollenbeck, M.D., University Medical College of Kansas City, 1894, division surgeon of the Memphis route, died at his home, Willow Springs, Mo., March 22.

William J. Almon, M.D., University of Glasgow, Scotland, 1837, died recently at his home in Halifax, Nova Scotia, from the results of a fall. He was 82 years of age.

Myron H. Parkhill, M.D., University of Buffalo, N. Y., 1886, coroner of Steuben County, died from pneumonia, at his home in Howard, N. Y., March 26, aged 35.

Patrick A. Holohan, M.D., McGill University, Montreal, 1894, died from typhoid fever at his home in Great Barrington, Mass., March 19, aged 32.

Matthew F. Ryan, M.D., Medical School of Maine, Brunswick, 1889, died March 18, at his home in Millinocket, Maine, after a lingering illness.

Seth B. Singleton, M.D., Kentucky School of Medicine, Louisville, 1880, died March 17, at his home in Welsh, La., after a short illness.

Francis M. Bledsoe, M.D., Jefferson Medical College, Philadelphia, 1859, died at his home in Georgetown, Ga., March 17, aged 70.

William E. Scull, University of the South, Sewanee, Tenn., died at the residence of his father in Lavernia, Texas, March 14.

Jerome M. Payne, M.D., Kentucky School of Medicine, Louisville, 1881, died at his home in Bagley, Iowa, March 22, suddenly.

James T. Halloway, M.D., University of Louisville, 1889, of Eupora, Miss., died at Mineral Wells, Texas, March 18, aged 41 years.

A. T. Blackburn, M.D., Northwestern Medical School, Chicago, 1881, died at his home in Atkinson, Neb., March 18.

Edward Clarence Frazer, M.D., University of Maryland, Baltimore, 1883, died in Philadelphia, March 19, aged 61.

Leo Randall, M.D., New York University, 1890, died at his home in New York City, March 15, aged 37.

Calvin M. Brewer, M.D., Baltimore Medical College, 1888, died suddenly at Clarkson, Texas, March 20.

James O. Campbell, M.D., Denver Medical College, died at Winslow, Ari., March 20.

Miscellany.

New Theory in Regard to Antitoxins and Immunity.—Apostolico suggests, in a communication to *Il Morgagni* (December, 1900), that the bacteria secrete the antitoxins themselves. He cites various established facts as arguments in favor of the theory that the bacteria secrete or generate both the toxins and antitoxins. At first the former predominate and the latter are in imperceptible quantities, but gradually the proportion is reversed and the antitoxins predominate as the bacteria become less and less virulent. He states that this production of antitoxin can be observed in cultures of certain molds.

The Parasite of Cancer.—Dr. Harvey R. Gaylord discussed the parasitic nature of cancer of variola before the professors, physicians and student body of the medical department of the University of Buffalo, N. Y., March 28. He referred to Busser who, in 1893, discovered a pathogenic organism belonging to the yeast family, and Cevellici, who isolated a yeast from the skin of a lemon and injected it into animals and to his surprise on examining specimens of the organs of the animal found that the yeast resembled the so-called organisms of cancer. The Doctor claims to have inoculated cancer into animals and to have transferred them from one animal to another. He said others have found organisms in cancer and explained them as protozoa. Sanvellin and all observers of alleged parasites in cancer have noted the great variability of these forms in the tissues. As a result of his preliminary work, he thinks he has discovered the reason for this, and said he owes to Busser the knowledge of the fact that all staining methods are unreliable for such a research. He therefore worked with the fresh methods, although at first it was very confusing. He has discovered in all the cases of cancer so far examined, that by fresh methods the organism can always be found. These bodies resemble fat in the fresh state. It was only when he applied the ether test and the osmic acid test that he discovered they were not particles of fat. He next found that he could crack their edges with a cover-glass and then learned that the same observation had been made by an observer in Christiania. There was no reason, however, to believe that these might not be unusual forms of fat, so he injected them into the abdominal cavities of animals, and most developed peritonitis, and large quantities of these bodies could be obtained from the peritoneal fluid. In the last few days he has observed the round form develop under the cover-glass. The bodies can be found in every cancer if properly sought for, and can be injected into animals and be recovered. They also change their form. San Felice succeeded in producing, by the inoculation of saccharomyces, local tumors followed by enlargement of lymph nodes. These lymph nodes were allowed to dry, and when pulverized and inoculated into successive animals, became more and more virulent, and finally produced death in two days. The inoculation of this virulent material produced in one animal true adenocarcinoma of the breast. From this, however, the organism could not be cultivated, but it could be found in the tissues, although in slightly modified form. It had been changed into something that was very like the Russel fuchsin bodies. Cultivation of every possible kind has been tried in the State Laboratory for the Investigation of Cancer. Altogether 1200 cultures were made in sixty different culture-media. The result has been most variable. Only once did they find a yeast in pure culture. Only once was inoculation performed successfully. Advantage has been taken of the technique of San Felice in his recent observations, and now they there use aseptic material from dried lymph nodes for one inoculation. The work has been done only within the last three months (March 3, 1901) yet three times death has occurred within three weeks after inoculation. In certain of the cases they have found Russel's bodies present in the nodules which occurred in abdominal carcinoma. An exploratory incision was made, and a quantity of the serum from the abdominal cavity was given him for investigation. It was in this fluid that he first found these bodies, and observed that they did not increase. After the fluid had been kept in the thermostat for three weeks, he could still find the same bodies. They were then injected into the jugular vein of a guinea-pig, and three weeks and a half afterward on killing the animal, he found a primary adenocarcinoma of the lung. This experience was unique. The fluid had been carefully sedimented and that for inoculation taken from the top, so that it is not at all probable that cancer cells were actually introduced into the animal. Reference was made to an address delivered before the New York Academy of Medicine in 1900, in which Dr. Gaylord stated that the most important work on the etiology of cancer in recent years had come from the Italian schools. Roncali, in studying certain appearances that were supposed to be coccidia, recognized that they were yeasts, also Russel's fuchsin bodies, the character of which was supposed to be yeast, and Plimmer, who in 1100 out of 1200 cases found atypical bodies, the Plimmer cells which were said to be the etiologic consequence of the inoculations. Dr. Gaylord referred to the work of L. Pfeiffer, not the bacteriologist, but the Vorstand of the Impfinstitut in Weimar and a biologist. He credited Pfeiffer for the observation that cancer is due to an animal organism, a protozoon, and also credited him with having described in detail a protozoon as a cause for variola and allied conditions—varioloid, varioline, vaccinia, horse-pox and cow-pox—besides attributing a parasitic nature to scarlet fever, measles, etc. Recently Munk has been able to obtain these bodies described by Pfeiffer from variola and vaccinia, and has studied them in a hanging drop bouillon culture. Dr. Gaylord found a resemblance between the organism of variola and that of cancer, and believes both to be protozoan. Lately, Isen, of San Francisco, has also seen these bodies in cancer. Sjöbring also contributed to the parasitic theory. He believes that these bodies, which can be obtained from scrapings of cancer, are best observed, unstained, and, being granular in appearance, have been regarded as fat. They have a vibratory circular motion, not ameboid, and go through cycles or stages of development. They have ameboid motion, and may possibly possess flagella. As to their multiplication, it is by sporation, but whether by a direct cell *division* Dr. Gaylord did not state.

Where and How Shall the Medical Student Get Information Concerning Medical Ethics?—*The Medical World* for April says: "With all the everlasting hue and cry about medical ethics, one can not but wonder that there is so much loyalty existing, if he but know even a little of the actual condition of affairs. The medical student enters the *medical school 'fresh from college'*; or fresh from the farm; or fresh from his preceptor's office. He has never heard a word of medical ethics, and when he first hears the term, if he has the timber of a good doctor in him, he looks wise and remains silent while inwardly cursing his abject ignorance. So soon as he may, he looks up the term in every lexicon, dictionary, book, and periodical to which he has access, with absolutely no results in so far as information goes. That is, the good student does; the coming ignoramus or quack has not the energy, brains, or enthusiasm to do such labor. The good student has learned enough to attract *his attention*, and has done his full duty when he has studied all available references; but the very familiarity with which the subject is treated by his professors impels him to conceal what he supposes is his supreme ignorance, and he is afraid to ask what this term means. Probably he does not again hear it in his entire curriculum, and graduates without knowledge of this important branch of medical education. All he learns thereafter will be over a very rocky path. He meets those as ignorant as himself; those who deliberately steal from him all his hard-won prestige; the foul and slimy back-biter; the quack, as well as some versed in ethical lore. What wonder that he blunders? *Who is to blame?* We recall the case of a young man who had graduated from one of our best colleges, with honors: he had served under a preceptor whose diploma was endorsed by the leading medical institution in the United States; he entered the curriculum of the said college and passed it with high grades, and some prizes; he was chairman of his class; yet until a few weeks before graduation he had never heard of 'medical ethics.' At once after hearing it he looked it up faithfully, and found nothing. He first heard it in a casual reference during a lecture on therapeutics in which the professor promised to devote *one hour* to a consideration of the subject of 'Medical Ethics.' The student, though he has practised for a number of years, is yet waiting to hear that lecture. After laborious search, he found where he could obtain a copy of the Code; when he perused it his horizon widened, and in the twilight he saw numerous shadows of failure, insult, misunderstanding, abuse and heart sickness and disgust, all of which might have been avoided or thwarted had he but known. When he obtained the copy of the Code he was a member of his county, state and the American Medical Association, and had written articles attracting attention in more than one continent. It is very easy to blame *him* for his ignorance; but were it not better to arraign the professors who should have given him a glimpse of light? These were the actual conditions in one of the leading medical teaching institutions in the United States. What they may have been in the more modest institutions we cannot tell. We have assurance that they are no whit better to-day. It is certain that if the medical students are not taught the vital principles of medical justice and equity, they can not practice them. When they meet their peers in ignorance, some one is injured; and probably the most honest man. We enter an emphatic plea for the teaching of the fundamental principles of medical ethics in every medical school; we urge every national, state, and county medical society to furnish every new member with a copy of the Code; we suggest that every doctor who has never seen it write to the Journal of the American Medical Association, Chicago, Ill., for a copy. If the schools have no time to mention it, they might at least present each graduate with a copy." [Codes will be furnished by The Journal at 5 cents a copy, postpaid.—Ed.]

Societies.

Tennessee State Medical Society, Nashville, April 9-11, 1901.
Florida Medical Association, Jacksonville, April 10, 1901.
Western Ophthalmological and Otolaryngological Association, Cincinnati, Ohio, April 11-12, 1901.
Medical Association of the State of Alabama, Selma, April 16, 1901.
Medical Society of the State of California, Sacramento, April 16-18, 1901.
South Carolina Medical Association, Florence, April 17, 1901.
Medical Association of Georgia, Augusta, April 17, 1901.
Louisiana State Medical Society, New Orleans, April 18-20, 1901.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 23-26, 1901.
Texas State Medical Association, Galveston, April 23, 1901.
American Association of Genito-Urinary Surgeons, Old Point Comfort, April 30, 1901.
Association of American Physicians, Washington, D. C., April 30, 1901.

Baltimore County (Md.) Medical Association.—At the meeting of this Association, at Arlington, March 21, resolutions in memory of the late George M. Bosley, Towson, were passed.

Stark County (Ohio) Academy of Medicine.—This organization, at its meeting in Canton, March 20, elected Dr. Robert A. Biechele, president; Dr. Esther A. Tyrrell, recording secretary and Dr. Frank E. Hart, corresponding secretary, all of Canton.

Practitioners' Club, Louisville.—At the annual meeting and banquet of this organization, held March 12, Dr. John J. Moren was elected president; Dr. Oscar E. Bloch, vice-president; Dr. William A. Keller, secretary, and Dr. James T. Windell, historian.

Sacramento (Cal.) Society for Medical Improvement.—The following officers have been elected by this Society, for the coming year: Dr. James A. McKee, president, and Dr. William H. Wentworth, secretary and treasurer.

Florida Medical Association.—The twenty-eighth annual meeting of this Association will be held in Jacksonville, April 10, under the presidency of Dr. William L. Hughlett, Cocoa. Dr. Jay H. Durkee, Jacksonville, is chairman of the committee of arrangements.

Paducah (Ky.) Medical and Surgical Society.—At the meeting March 20, a resolution was passed prohibiting any member of this Society from making a bid or contract to do the practice of any corporation, union, secret society or other organization.

Ophthalmological and Otological Society of Washington, D. C.—The thirty-sixth session of this Society was held on March 12, at the office of Dr. Henry A. Polkinhorn, who presented the paper of the evening on "The Use of Suprarenal Capsule in Ophthalmic Practice."

Wayne County (Mich.) Medical Society.—At the March 21 meeting of this Society at Detroit, its committee on medical legislation, composed of Drs. George A. Kirker, Leartus Connor and Robert H. Honner, all of Detroit, was instructed to go to Lansing, March 26, to oppose any amendment to the existing medical laws of the state.

Tuberculosis Congress.—The meeting of this Congress will take place in London, July 22. The work of the session will be divided into four sections, which will consider various phases of the subject; namely, state and municipal; medical, including climatology and sanatoria, pathological including bacteriology, and veterinary.

Jefferson County (Ala.) Medical Society.—A special meeting of this Society was called on March 25 to pay due respect to the late Dr. George C. Chapman, Birmingham, who had served for several years as its secretary. Committees were appointed to escort the remains to the train, to provide a suitable floral tribute and to draft appropriate resolutions.

Cass County (N. D.) Medical Association.—The first annual meeting of this Association was held at Fargo, March 25, and the following officers were elected: Dr. Edward M. Darrow, Fargo, president; Drs. Paul R. Sorkness, Fargo, Henry H. Critchfield, Hunter, E. C. Brauch, Jamestown, and George A. Carpenter, Fargo, vice-presidents; Dr. Cyrus N. Callender, Fargo, secretary and Dr. Edward B. Evans, Fargo, treasurer.

Health Officers' Association of Texas.—The health officers of the state met at Houston, March 21, and perfected a permanent organization. State, county and city health officers, mayors of incorporated cities and towns, sanitary officers of cities, and the governor are eligible to membership. Dr. James B. Massie, Houston, was elected president; Dr. Isaac J. Jones, Austin, vice-president, and Dr. John M. McCutchan, Temple, secretary and treasurer.

Saratoga County Medical Association.—This Association held a meeting for the perfection of its organization, March 14, and elected the following officers: Dr. Frank J. Sherman, Ballston Spa, president; Dr. George F. Comstock, Saratoga, vice-president; Dr. John F. Humphrey, Saratoga, secretary, and Dr. William E. Swan, Saratoga, treasurer. Delegates to the New York State Medical Association and THE AMERICAN MEDICAL ASSOCIATION were also elected.

American Surgical Association.—The provisional program for the 1901 meeting of this body, which occurs May 7, 8 and 9, at Baltimore, under the presidency of Dr. Roswell Park, Buffalo, announces "Some Phases of the Cancer Question" as the subject of the president's address, and "Examination of the Blood in Relation to Surgery," as the chief subject for general discussion. Mr. A. W. Mayo Robson, F.R.C.S., of Leeds, England, will be present and read papers on "Pancreatitis," and "Treatment of Chronic Ulcer of the Stomach."

Orleans Parish (La.) Medical Society.—At the meeting of this Society, March 23, Dr. Edmond M. Dupaguier read a paper on "Lung Infarcts in the Pneumonia of Cardiapathy"; Dr. Louis G. Le Beuf reported a case of gangrenous infection of the ischio-rectal region, with dissection and isolation of nearly four inches of the rectal tube, terminating in recovery; and Dr. Thomas S. Dabney related a case of acute alcoholism in which 1/16 gr. of apomorphin hydrochlorate given hypodermically had produced prompt emesis, followed by profound and refreshing sleep. A marked distaste for alcoholics was observed on the following day.

MEDICAL SOCIETY OF THE MISSOURI VALLEY.

Thirteenth Semi-Annual Meeting, held in Omaha, March 21.

Pelvic and Hepatic Disease.

DR. INEZ C. PHILBRICK, Lincoln, Neb., read a paper entitled "Association, in Women, of Pelvic and Hepatic Disease." Her experience has impressed him with the constant presence of a hepatic factor in cases of chronic pelvic disease. He said the question constantly arises as to whether hepatic congestion, biliary catarrh, autointoxication and cholelithiasis bear the relation of effect to cause of pelvic disease. What, save an understanding of the physiologic factors involved, can render intelligible that symptom-complex, retroverted uterus, irritable bladder, constipation, hemorrhoids, gastric catarrh, cholelithiasis and neurasthenia? All investigators agree that sedentary habit, tight lacing, faulty posture and pregnancy are predisposing factors to cholelithiasis. They do not emphasize chronic pelvic disease as an etiologic factor. Sex is a factor. Different observers estimate that about 80 to 85 per cent. of gall-stone cases are found in women. Sedentary habit and an irrational dress, its constricting bands, its heavy skirts, its corset, capable of amputating a portion of the liver, favor and induce flexions of the uterus. These directly affect the portal circulation. Recurrent menstrual congestion and the more prolonged pelvic engorgement due to frequent pregnancies become permanent factors in causing chronic pelvic disease. Retroversion almost certainly causes constipation, interferes with hepatic circulation and impedes liver function. Autointoxication, neurasthenia and general vascular relaxation, including the portal circulation, follow. Pregnancy has been assigned as the cause of cholelithiasis, but wrongly; pregnancy has been the cause of chronic pelvic disease and it has been the cause of the cholelithiasis. In every one of her patients with prolonged pelvic disease, hepatic congestion and torpor has been present.

Methyl Alcohol Amblyopia.

DR. HAROLD GIFFORD reported another case of this condition, in W. B. S., aged 35, brought to him November 28 last, with a history of slight failing for two days prior, and total blindness present for several hours. Otherwise the man was in apparent perfect health. The right eye was absolutely normal, objectively, except for a dilated pupil which gave no sign of contraction on light stimulus. The left had a shrunken cataract and had been entirely blind for years. The patient could think of nothing to account for his blindness except malaise for a few days. The case seemed to be one of idiopathic retrobulbar neuritis. The Doctor gave a not altogether hopeless prognosis and ordered pilocarpin sweats and large doses of the iodids. Vision slowly and steadily increased and in two months was nearly 20/20. Meanwhile the optic disc had become distinctly atrophic and the retinal vessels were bordered by well-marked connective tissue sheaths. The manner of the return of sight during the first two weeks suggested methyl alcohol, but the patient was sure he had never used any, though he recalled drinking some cologne spirits just before his sight began to fail. A sample from the same jug proved it to be nearly pure methyl alcohol flavor. Thus was the causation proved.

Clean Surgery in Obstetrics.

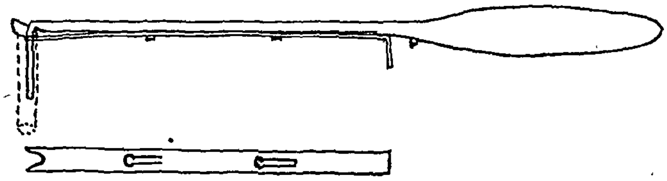
DR. J. E. SUMMERS, JR., read a paper on "Clean Surgery versus Mutilating and Unscientific Obstetric Procedures as Practiced upon the Viable Unborn Infant." During his student days, in England and America, embryotomy was the operation of choice when forceps or version failed. Cesarean section was only allowable when the deformity did not admit of embryotomy. On the Continent, because of religious belief, Cesarean section always had the preference over craniotomy on the living child. The steadfastness of the teachings of the Roman Catholic church has forced the application of the principles of modern surgery into the obstetric art so that the killing of the unborn, viable child is becoming recognized as ethically and scientifically reprehensible. The induction of premature labor, in well-selected cases, is conservative in that it saves nearly all the mothers and about 60 per cent. of the children. Cesarean section in such cases would save both mother and child. Porro's operation and Cesarean section have reached a position so high that, in nonseptic cases, the maternal mortality should be practically zero and the infant mortality of necessity zero. In septic cases, the maternal mortality reaches 33 per cent. and the infant often succumbs. Improved technic has so broadened the field for successful operations by Cesarean section that it is called for when the true conjugate measures as much as 2.8 or even 3 inches. Reynolds, of Boston, who has had nineteen consecutive cases, says Cesarean section is so safe an operation that it may be used unhesitatingly in cases at term whenever an intrapelvic delivery will be fatal to the child, and may often be preferred to the induction of premature labor. Leopold, Zweifel and Gustav Braun together have done 222 Cesarean operations with a gross mortality of 7.2 per cent. The nonseptic cases gave a mortality below 4 per cent.

Diseases of Accessory Sinuses of Nose.

Dr. D. C. Bryant, Omaha, Neb., presented a paper on "The Pathological Importance of Diseases of the Accessory Sinuses of the Nose." He thinks the general practitioner does not attach sufficient importance to the seriousness of the conditions which may occur in these sinuses. This is shown by the disastrous results seen in overlooked and neglected cases. Inflammatory forms are most common. The suppurative is the all-important one. We are all familiar with the havoc produced by a suppurative inflammation in the middle ear or the mastoid cells. Every one understands that such a destructive process must soon be checked or there will follow destruction of the sound-conducting-apparatus; or thrombosis of some of the venous channels and septic infection of the meninges of the brain. Every physician knows that many of these cases end in death. and yet few seem to realize that the same result can follow suppurative inflammation of the accessory sinuses of the nose. This failure on the part of the general practitioner was brought very forcible to his mind while seeing post-mortem examinations in Vienna. He saw two cases of suppurative meningitis following sphenoidal and ethmoidal disease unsuspected prior to post-mortem. Of the five sinuses, three have their natural openings near a common point in the nasal cavity, viz., the antrum of Highmore, the frontal sinus and the anterior ethmoid cells. The sphenoidal sinus and the posterior ethmoid cells have a nearly common point of outlet. This nearness of outlets makes it a very easy matter for the infection to travel from one sinus to another. The fact that there is often no pain at the seat of the disease, or even such pain as is present is located remotely, is very misleading. The discharge of pus is so scanty as to be easily overlooked by both patient and physician. When the smallest quantity of pus is found in the middle meatus, one can suspect disease of the antrum, frontal sinus or anterior ethmoid cells, when it is found in the superior meatus, or running down over the middle turbinate, one can suspect suppuration in the sphenoid, or the posterior ethmoid cells. The solid probe, the hollow probe, and the trocar and canula will be found of untold service. The only certain method of finding whether the suspected pus comes from the antrum of Highmore is to make an exploratory puncture preferably through the wall of the inferior meatus, and to wash out the cavity with warm saline solution. The frontal sinus, the ethmoid cells, and the sphenoid can be entered through their natural outlet, with a solid, and then with the hollow probe, irrigated with saline solution.

Intubation Instrument.

Dr. F. W. Dean, Council Bluffs, Iowa, presented this, saying that while there are already on the market several admirable instruments for intubating the larynx, he has been unable to find one that will not fail in occasional cases. "When the tube is on the O'Dwyer, Waxham or Frank introducers ready for introduction, the instrument adds from one-quarter to three-eighths of an inch to the length of the tube. Dr. F. E. Sampson has made an introducer which obviates this difficulty though its mechanism is rather complicated for an ideal instrument. An introducer that I have devised not only corrects the fault but is exceedingly simple in its construction. It is durable and easily cleaned. It consists of two parts which for convenience in describing I will term the stationary and sliding parts. The stationary part is a steel bar having about an inch and a quarter of one end rounded and reduced in size so that it will enter the smallest tube. One inch of the rounded portion is bent downward at a right angle to the bar. At the other end of the bar is the handle of the instrument. The lower surface of the bar is flat and merges into the handle at a short incline of about 8 degrees. There is a stop-pin upon the incline and a couple of headed rivets are fixed in the lower flat surface upon which the sliding part plays. The sliding part of the instrument is a strip of spring steel which slides on the under flat surface of the stationary part by means of two slots playing on the rivets. In its distal end is a V-shaped notch which fits under the enlarged end of the tube, holding it firmly on the instrument. One-half inch of its proximal end is bent downward at a right angle to be used as a trigger. This trigger end rests upon the short incline of the stationary part. giving a frictional contact which prevents its sliding too easily. The distal ends of the slots are enlarged, enabling the two parts to be easily separated by raising the trigger end over the stop-pin."



Facial Paralysis.

Dr. J. M. Aiken, Omaha, in a paper on this subject, made a strong plea for more attention on the part of the general practitioner to cases of facial paralysis. He urged a thorough study of the anatomy, thus enabling the physician to locate more definitely the real seat of origin and adapt the treatment to the conditions discovered.

Plastic Operation for Pruritis Ani.

Dr. H. T. Hamilton, Omaha, described the plastic operation he has devised for the relief of this condition. He dissects out enough tissue to remove the terminal filaments affected. He secured very satisfactory results in the cases referred to in his paper.

Ante-Partum Diagnosis.

Dr. A. B. Summers, Omaha, presented a paper on this subject emphasizing the necessity of great care in the examination of women during attendance in labor. Examination should be made as early as possible, such as measuring the pelvis if it seems necessary, examination of the urine as to the presence of albumin, and the quantity of urea excreted. The question of the advisability of inducing premature labor should also be kept in mind, and that of performing Cesarean section in case of deformed pelvis or placenta previa.

Other papers were read on the following subjects: "Chorea," Dr. E. A. King, Blockton, Iowa; "Primary Perineorrhaphy," Dr. C. H. Wallace, St. Joseph, Mo.; "Treatment of Tuberculosis," Dr. J. W. Kime, Ft. Dodge, Iowa; "Compensation and Failure of Compensation in Heart Disease," Dr. Millard Langfeld, Omaha; "Chalazial Tumors," Dr. M. F. Weymann, St. Joseph. Mo.

NEW YORK ACADEMY OF MEDICINE.

Meeting of the Section of Otology, held March 13.

Dr. James F. McKernon in the chair.

Akouphone and Akoulalion.

Mr. J. R. Hutchinson, on invitation, presented the above subject and said that in treating of deafness from the standpoint of a mechanic and engineer, he considers the ear merely as a piece of machinery, subdivided into its integral parts, which individually perform certain functions when acting in normal healthful conditions. For several centuries the attention of scientists has been turned toward the partial relief of deafness by the substitution of mechanical contrivances to perform the functions of the mechanical parts which have deteriorated, and he referred to early attempts in this line.

The speaker's estimate of the deaf people he has tested within the past four years, places those utterly unable to hear sounds by means of his strongest electrical apparatus at 5 per cent.; 20 per cent. of the deaf are not handled to a practical extent by these instruments. They may be able to hear sound, but the inability to distinguish between sounds is lacking and they seem beyond hope. The remaining 80 per cent., if handled in a practical manner, can be reached successfully. In speaking of these 80 per cent., he divided them into three classes: those who are totally deaf, or deaf-mutes; persons extremely hard of hearing; those slightly hard of hearing. To the first class belongs congenital deaf mutes, and also persons who are considered totally deaf but who could once hear. With the former, although they hear the sound of words, having never before experienced this sensation, they are not able to understand what sound is, and it is a very laborious task at first to get them to distinguish between sounds. Also the lack of desire on their part to hear is to be contended with, as, never having heard, they naturally do not appreciate what they are missing. This is possibly the hardest class to handle, and it is very rare that anything is ever done after they have reached maturity; for, having no time to devote to learning the meaning of all the different sounds, they naturally are reticent about undertaking a task that they consider of so great a magnitude. Children's minds, however, are in a receptive state, a course of instruction in the regular curriculum of our schools, which would enable a competent instructor to teach the children the meaning of sound, the difference between sounds, the sound of words connected with their meaning, would naturally cultivate a normal tone and perfect articulation, the children being able to hear their own voices in repetition after the teacher.

He considers it marvelous that so much had been and is being accomplished in this direction when it is considered that the pupil neither can hear the sound which he or she is trying to imitate, nor hear the sound of the voice in repetition. Although a deaf-mute has been thoroughly educated in lip-reading, and can speak himself, when he hears words spoken to him, he does not know what they mean. An analogous case would be that of a person who had always been blind. He knows a table, a book, or a chair, by the sense of touch, but if such a person should suddenly receive his sight, he would become totally confused, and it would take a long time and much effort on his part to learn to correlate the image of the thing with the name of that object and have a thorough understanding of these two. Also, if a person has been totally deaf for quite a length of time, not having heard the sound of articulate speech for so long a time, he naturally forgets what words sound like, and, although he has more of a foundation to build on than those of the congenital deaf-mute, still it is a matter of practice before he becomes familiar again with sound, even when presented with such tremendous magnification and precise articulation as is accomplished by the akouphone or the akoulalion. He knows a number of instances in which persons had been "totally deaf" for a number of years and had forgotten how to understand speech, yet, by means of these instruments, again became familiar with words by practicing talking to themselves. In fact this is the quickest and most satisfactory way of reaching such a case.

To the first class belong the akoulalion, the name being derived from the two Greek words akouo, I hear, and lalo, I speak, which is intended to convey the idea that by hearing they are taught to speak correctly. This instrument consists of two instruments known as the pupil's stand and the teacher's stand respectively.

The pupil's stand is provided with two ear-pieces which are mounted on an electric spring that clamps the ear-pieces against the ears. On each of these ear-pieces is mounted a pneumatic cushion, which may be removed if desired, to correspond with the nature of the deafness as explained later. On this base is likewise mounted three vertical rods upon which slides a small hard-rubber carriage having mounted upon it the receiving instrument into which the pupil speaks when he wishes to hear his own voice. Connected to the pupil's stand is the teacher's outfit, which likewise has a round base, having mounted upon it a somewhat similar set of vertical rods having a small carriage supporting a similar receiving instrument. The height of the receiving instrument in both cases may be adjusted to conform to the height of the pupil or teacher when using the instrument. To the teacher's outfit is attached a wire leading to the electric battery, which can be situated any where in close proximity to the instrument. The pupil's stand is likewise connected to the teacher's stand, by a three-conductor flexible cord. The phonograph attachment is also attached to the teacher's stand. This latter attachment can be adjusted to any phonograph, gramophone, or other talking instrument.

It is almost universally the case that one ear has slightly more hearing than the other, and for this reason it is necessary not only to adjust the amount of sound going to or being received by the ears of the deaf-mutes, but also to regulate the intensity of the sound delivered to each individual ear. This is a vitally important thing, and alone places the akoulalion far ahead of similar devices. By alternating instruction by simple, rhythmic music, an appreciation of music is cultivated along with that for articulate speech. The question naturally arises, what will be the eventual outcome of the course of instruction with the akoulalion? A person can not use so large an instrument in the transaction of every-day affairs, and naturally must be able to use a smaller instrument, which can be carried around with him? In answer to this, the speaker said that the akouphone, or small portable instrument, can be made just as powerful as the akoulalion, but the latter possesses many advantages in there being a tremendous increase in the articulation of the word and the application of the sound to both ears at once, and the ability of the pupil to hear and speak the words in immediate repetition after the teacher. So, having learned the meaning of the sounds, such a person can provide himself with a small portable akouphone, by means of which he can carry on an ordinary every-day intercourse. It is likewise a fact that the continued use of the akoulalion has improved the hearing of quite a large per cent. of the deaf. It is but natural to suppose that a function which is inactive, when exercised, will naturally have a tendency to awaken and perform its natural function more effectually, provided there is not some destruction of the nerve itself. He has known of many instances of persons being able to hear perfectly with the akouphone or the akoulalion who had no appreciation whatever of sounds by the ordinary tuning-fork, or the shrill Galton whistle. Likewise persons who by the tuning-fork tests have an appreciation of certain notes and a lack of appreciation for the lower or higher ones, hear all notes alike with the akoulalion.

The akoulalion is at its maximum efficiency when in the hands of competent instructors of the deaf, but the akoulalion can be used in the private home for the instruction of children during vacation, on lines mapped out by competent teachers.

Considering those extremely hard of hearing, he said that one who has been very deaf for some time has forgotten how to eliminate the sounds he does not wish to hear. For instance, when using the akouphone, which magnifies the sounds tremendously, if three or four people are talking in close proximity to the one who is addressing the deaf person, the latter hears a general confusion of sounds, and he is unable to eliminate the sound of the other persons and to concentrate his attention on what the party who is speaking to him says. For this class, the type C instrument is designed, and enables the person who is deaf to hear only that which the person he is addressing says. It is also possible for each of two or more persons to have a receiving instrument into which each member of the company speaks, and the deaf person can not only hear what each says to him, but can likewise hear the remarks of one of the persons to the other. The instrument gives a perfectly clear enunciation. The little receiving instruments are made of aluminum, are always clean and sanitary, and do not contain obnoxious odors. Furthermore, the lower a person speaks, the louder the akouphone delivers the sound to the deaf person. If the receiving instrument is shouted into, the excess of sound is entirely cut off, so that the deaf person is not inconvenienced in the least by having to ask the person to speak in a lower tone of voice, and no detrimental effect is possible to the ear. There is a little black flexible cord running to each one of the receiving instruments. The deaf person has a small ear-piece about the size of a watch, which is either held to the ear in the palm of the hand, mounted upon a handle, or by a head-band which holds it in place. The ear-piece can be regulated to suit the case of deafness and intensity of sound, and is as necessary as it is to focus a field or opera-glass to correspond to the eyesight and distance of the object. A small, dry, pocket storage battery supplies the necessary electricity to operate the instrument, and this can be readily recharged by the aid of the outfit furnished, without inconvenience or knowledge of electricity on the part of the user.

After the deaf person has been using this style of instrument for some time, a normal condition is developed in that the hearing is accustomed to receiving sound applied to the outside. The use of any aural instrument, which protrudes into the ear, is not only a menace to the healthy condition of the ear, but likewise cultivates what might be termed "near-of-hearing." The same as would be the case if a person would habituate himself to holding a book two or three inches from the eye when reading. He would become near-sighted. So the ear, having the sounds projected upon the auditory apparatus by a tube extending into the ear, becomes so accustomed to hearing sound delivered in this manner that it is in many cases difficult to understand at first with the akouphone. The ear has to again become accustomed to hearing sound applied to the outside. In many cases this is the ultimate point that can be reached, but there is a tendency in many more cases for the hearing to be gradually developed to the extent of the patient being able to use an instrument which picks up surrounding sounds within a reasonable range, and transmits them to the ear of the person. Then again, the person has to learn to eliminate not only the echo in the room or hall, or bad acoustic properties, but also the sound of voices he does not wish to hear, in other words, turn the sound into an intelligent state of affairs. An analogous case is that of a telegraph operator, who is able to stand anywhere within hearing distance of a telegraph instrument, and in spite of the loud ticking of the instruments even closer to him than that which he wishes to read, is able to eliminate the sound of those other instruments and hear only what the instrument he is listening to says. But, if he leaves the telegraph office for a number of years and returns again, he is not able to do this at first. Not only that, but he is unable to follow any one instrument perfectly, for the reason that he has forgotten how to concentrate his attention on any one particular instrument. But after he has been in that office for some weeks, he can again accomplish the same results with ease as before. So it is with a deaf person. The akouphone and akoulalion are not practical for children under 7 years of age, persons having paralyzed nerves, persons of hysteric temperament, and people of extreme age.

Briefly stated, the akouphone is a portable instrument which a large per cent. of the deaf can carry around with them, hearing ordinary conversation, the theater or opera, etc., and again enjoying those blessings from which they have been ostracized. This is not accomplished immediately, but the continued use of the instrument will tend to this. There is an instrument to be used exclusively for the desk of the business man, in which his batteries are being charged when he is not using the instrument; for the dining-room table, so that the host can sit and listen to the general conversation going on around the table; for the library for similar use; and for the opera, theater or church there is the "opera-outfit." In fact, it supplies any demand which can be made upon an instrument for the deaf.

NEW YORK ACADEMY OF MEDICINE.

Meeting held March 21.

Modern Treatment of Gonorrhea and Its Complications and Sequelae.

Dr. George K. Swinburne discussed acute gonorrhea. He insisted that the diagnosis should be confirmed by microscopic examination of the pus, and that the microscope should be used as a guide to the treatment of the different stages. In searching for gonococci it should be remembered that a single injection of protargol will sometimes cause their disappearance for twenty-four hours. He is one of those who believe in the early use of urethral irrigations of a 1 to 4000 solution of permanganate of potassium at a temperature of 105 to 120 F. For the first few days the injections should be given twice daily; then once a day, and the interval gradually lengthened. The solutions should not be irritating. Ordinarily a .5 to 2 per cent. solution of protargol would be appropriate after the first few days of the disease. At the end of five weeks of such systematic and efficient treatment a test of the efficacy of the therapeutic measures adopted should be made by instructing the patient to drink beer freely for several days to see if it causes a return of the urethral discharge. As soon as the posterior urethra becomes involved, it should receive local treatment, sometimes by careful irrigation from the meatus, sometimes by deep instillations of protargol solution.

Dr. John Van Der Poel, speaking of chronic gonorrhea, said that the ordinary urethral syringe is not usually sufficient; he prefers the fountain syringe. For an anterior urethritis, he uses a .5 to 1.5 per cent. solution of protargol, and for posterior urethritis a strength of .5 to 1 per cent. The strength should be gradually diminished and the interval of treatment lengthened. After all micro-organisms have disappeared, weak solutions of the acetate or sulphate of zinc or of the acetate of lead are beneficial. At times it is necessary to treat certain areas of the mucous membrane of the urethra, and for this purpose a few minims of a solution of nitrate of silver, .5 to 5 per cent. in strength, should be applied to the part, through the endoscope. A sudden increase of the discharge containing gonococci is usually indicative of a new focus having been broken open. It is a good general rule not to use dilating sounds until all micro-organisms have disappeared.

Dr. J. Pedersen spoke of some of the complications of posterior urethritis. It should be the aim of all treatment to prevent, as far as possible, hyperemia of the genitals, and to do this the patient should rest as much as possible, preferably in the recumbent position; the diet should consist largely of milk, tobacco and alcohol being excluded, and an effort should be made to keep the urine sweet by the internal use of appropriate antiseptics. One of the best of these is salol in full doses. For the more severe cases of urethrocystitis, a dram or two of a solution of nitrate of silver, .5 to 1 gr. to the ounce, should be instilled through a catheter. Irrigation from the meatus in these cases is ordinarily too irritating, and dangerous because of the liability of forcing some of the fluid into the ureters. In the early stages of an acute general gonorrheal cystitis, forcible irrigation of the bladder is to be condemned. When the spermatic cord becomes involved during the course of a gonorrhea, direct treatment of the urethra should be stopped, the patient be kept in bed, and an ice-bag or an evaporating lotion applied to the part. If these measures are promptly taken and efficiently carried out, epididymitis may be averted. Where the latter complication occurs an icebag may be of service in the first twenty-four hours. Later on mercury and iodid of mercury should be used. A suspensory bandage is not sufficient, but the testicles should be well supported over the pubes, by a sling attached to a belt around the waist. Gonorrheal rheumatism is apt to occur at any stage. Immobilization, counter-irritation and cold are the measures to be used locally at first; subsequently, poultices, compression, massage and passive motion may find a place. The treatment of the urethritis should be active though *conservative*.

Dr. W. A. Holden considered gonorrheal conjunctivitis. He said that at the very onset a single application of a 2 per cent. solution of nitrate of silver or of a 50 per cent. solution of protargol may abort the attack. The constant application of ice-cloths and the frequent washing out of the affected eye with boric acid in saturated solution are most essential. The cornea should be inspected at least once daily, and hot applications substituted for the cold ones on the first sign of haziness of the cornea. Protargol or nitrate of silver solution should be applied to the everted lids.

Dr. J. R. Hayden spoke of gonorrheal stricture of the urethra. He favors the use, in most cases, of appropriate irrigations and of gradual dilatation, up to No. 18, with bougies and above that size with the ordinary steel sounds. When this treatment fails, internal urethrotomy should be done, care being taken to hold the urethrotome exactly in the median line and to keep the urethra on the stretch. A caliber of 25 or 30 should be secured. On the first signs of urethral fever, all the urine should be drawn with sterile catheters and the urethra irrigated with antiseptic solutions, while antiseptics are given internally. For tough strictures of the deep urethra, external urethrotomy is indicated. The method known as rapid dilatation is never free from risk; that of continuous dilatation is proper in a few selected cases; electrolysis is only of service in a few soft strictures, and was mentioned only to be condemned.

Dr. Robert W. Taylor said he could not see the necessity for aborting gonorrhea, nor is he in favor of very active treatment in the early stages. Soaking the penis in hot boric acid solution, and making use of measures calculated to render the urine and the food unirritating are all that is required until the inflammatory symptoms have subsided, when injections of warm lead water are of service, as were also antiblenorrhagics given by the mouth. He prefers nitrate of silver to protargol, and would begin with irrigations of a strength of 1 to 32,000, gradually increasing the strength until, after five or six weeks, instillations of a 1 to 500 solution of nitrate of silver may be employed. In the long-standing cases, solutions of acetate of lead and of sulphate of zinc or copper are beneficial.

Dr. B. Lapowski said that the physician should endeavor to locate the gonococci in the urethra, and treat those portions. He asserted that the microscope could not always demonstrate by the Gram stain the presence of gonococci, and in order to determine absolutely whether or not it is possible for a person to marry, a culture must be made with the discharge.

Dr. Ramon Guitéras said that at times the lighting up of an old urethritis, by the breaking open of latent foci, will explain certain cases where the patient is positive that there has been no new exposure. He is thoroughly in favor of the permanganate irrigations, but insisted that the hydrostatic pressure should be most carefully regulated, and that the patient should be taught how to relax the compressor muscle at the right moment. While he feels positive that, since the treatment of gonorrhea by permanganate of potassium irrigations came into vogue, fewer cases of urethral stricture are seen, he admits that seminal vesiculitis is more common.

Dr. Charles Chetwood objected to the use of forced irrigation without a catheter in cases of acute urethritis. For the first six days of the disease only the anterior urethra should be treated; after that it is well to include the posterior urethra, as a prophylactic measure, even though this portion gives no distinct evidence of involvement.

Dr. Bischoff, speaking of the prophylaxis of gonorrhea, said that he thought prostitution could be regulated to an appreciable degree if the work were placed in the hands of our sanitary authorities rather than with the police. He detailed certain recent experiments to show that it is possible to abort a considerable proportion of cases of gonorrhea.

Dr. Hill praised picric acid as an agent for the treatment of chronic gonorrhea when the mucoid stage is present. It should be used in a 1 to 100 or 1 to 2000 solution, about sixty minims being employed for each instillation.

Dr. Ferd C. Valentine expressed his belief that there are different forms of the gonococci, and that each vaunted remedy is most efficient in combating the inroads of one of these special forms.

DENVER AND ARAPAHOE MEDICAL SOCIETY.

Meeting held March 2.

President Dr. H. G. Wetherill in the chair.

The Present Status of the Bottini Operation in the Treatment of Prostatic Hypertrophy.

Dr. Leonard Freeman read a paper on the above title, and said in part: No drug, serum nor glandular extract has yet been discovered which has decided curative properties. In estimating the practical value of the various operations, the following points are to be considered: 1, the percentage of recoveries; 2, the amount of danger; 3, the inconvenience and danger entailed; 4, will the operation be accepted by old men who are naturally timid in regard to surgical operations? Prostatectomy inspires dread and is attended by risk; castration is falling into disuse, and its mortality is high—16 per cent. in 152 cases. Vasectomy does not insure relief. Canalization of the gland, ligature of the internal iliac arteries, electrolysis, puncture with the electric cautery through the rectum, etc., are not sufficiently safe or reliable. The Bottini operation consists in burning through the prostate gland, one or more furrows, by means of a concealed knife, heated to white heat by electricity. The bladder is kept out of the way by dilating it with air. The following are the advantages claimed by the author for the operation: the large percentage of recoveries—85 per cent; the mortality being lowered 5 per cent; suffering and inconvenience slight. He observed that drinking of large quantities of water and copious injections before and after the operation contribute much to the safety and comfort of the patient. The operation is done in a few minutes; the pain is seldom great, and always bearable. The patient is permitted to leave his bed in a day or two. The patients, as a rule, do not object to the operation. There is no loss of blood, no open wound, no anesthetic is used, and in case of failure the first time the operation can be repeated with every prospect of ultimate success. His operations numbered 15, performed upon 12 patients, and 2 operations performed respectively by Drs. Williams and Warren. Six were absolutely cured, 1 died of pneumonia, 1 was a complete failure, and 1 a relapse. In 3 cases a second operation was successfully made. Experience, familiarity with the region involved and attention to details are essential to success. His later cases have been more successful than the earlier. He believes that in a majority a maximum of good can be done by its aid, with a minimum of risk, and that its shortcomings are more than counterbalanced by the advantages.

Dr. Hobart Warren gave a brief outline of the anatomy of the prostatic region illustrated by diagrams. He thinks that by the Bottini operation the prostatic plexus of veins is avoided, and thereby the risk of embolism is diminished. He does not think the patient should be allowed to go around in a day or two. A too deep cut may be avoided by careful measurement.

Dr. John S. Miller said the flow of blood along the groove of the instrument is considered by many operators to be a reliable sign that the cautery blade has cut deeply into the prostatic structure. The bleeding will not be so severe if the cutting is done slowly and the blade is not too hot. Unless the beak of the instrument is held firmly against the lobe to be incised, the blade simply makes a shallow cautery line, while the beak of the instrument instead of being stationary, pushes backward and at the same time makes a false registry upon the gauge; it is very clear why such an operation should be attended by failure.

Dr. W. P. Munn has never had an occasion when the Bottini operation had to be resorted to. He does not think it should supplant the older operation. He admits that the Bottini may have its definite field, but he is not prepared to say what it should be. He thinks prostatectomy is just as free from danger. He considers the Bottini operation as cutting in the dark—one can neither see nor feel what he is doing. He ascribes the greater number of recoveries to the use of recent urinary antiseptics, like urotropin, etc.

Dr. Leonard Freeman pointed out that the taking of an anesthetic for the older operations acts badly upon the kidneys, and the patient must be kept in bed for at least two weeks. As to the contention that the Bottini operation is "cutting in the dark," crushing of the stone and urethrotomy are certainly more dangerous, and yet no one objects to them on the score of their being "cutting in the dark."

Fictitious Bad Effects from Vaccination.

Dr. Wm. P. Munn read a paper on the above subject. He recited the histories of three cases which came under his observation, in which various maladies occurring during the course of vaccination were ascribed to the virus. A girl, 11 years old, three weeks after vaccination, was taken with convulsions. Her temperature was high. She was unconscious for three weeks. It was a case of cerebrospinal fever, yet the parents and neighbors speak of it as having been caused by the virus. The other was a woman 35 years old, who was vaccinated by her husband, a dentist. She was taken sick when the scab was dry, with high temperature, and she lost sensation in both legs. She, too, recovered, and firmly believes the whole trouble to have been due to vaccination. In the third a death-certificate was made out by a homeopathic physician, attributing death to vaccination. Dr. Munn, who was at that time health commissioner of Denver, instituted an inquiry, and found that the secretion from the nose and throat of the dead child contained diphtheria bacilli, that another child in the house had diphtheria, and the physician's child also had it. Generalizing, Dr. Munn said that where 20,000 children are vaccinated within a short time, it is impossible to expect that all will escape the ordinary diseases of childhood, and coincident troubles will occur.

Dr. E. P. Hershey related the history of a woman who had a papular eruption which came on one week after a vaccination. A careful examination revealed a sore throat and mucous patches. A history of exposure to syphilis, and rapid improvement under large doses of mercury, left no doubt in the minds of both physician and patient as to the nature.

BUFFALO ACADEMY OF MEDICINE.

Meeting of the Medical Section, held March 12.

Dr. Sigmund Goldberg, chairman, pro tem., presiding.

The Racial Factor in Hysteria.

Dr. Julius Ullman read a paper on this topic. He cited the reports of Aruch. who studied the disease in dogs, and of Higur, who reported hysteria in a cat and canary bird. In the genus homo hysteria has been confined to no one time, latitude or race. The writer is of the opinion that racial characteristics are not so much the result of inherent qualities as of social conditions, and after classifying the physical and psychologic causes, took up the social conditions which increased this disease relatively among various races. Reference was made to the continued history of persecution among the Jews, their fertile mentality, his conditions of oppression, his exclusion from trades, segregation into ghettoes, burdening with taxes, and isolation, and the tendency this gives for consanguineous marriages and for simulation of hysteria. He also spoke of the increase of hysteria among the Latin and Slavonic races; among the latter it can be attributed to conditions of serfdom but little better than slavery. Witchcraft and demoniacal possessions were spoken of as built on a ground work of hysteria and superstition, for, as Fere says, the hysterical anethesias held first place as the marks of the devil. The Salem witchcraft in New England was spoken of, and it is not surprising to the writer that, among the progenitors of the believers of witchcraft, that other delusionary belief of "Christian Science" should have had its inception. The history of the negro native to Africa was called to mind, and the forcible kidnapping and horrifying voyage to this country in the slave-trading ships was mentioned as a sufficient cause for a psychic insult, the result of which may still be seen in hysteric manifestations in the negro of this country. The history of the native American, among whom it was shown that hysteria could not have existed, was given, and the effects of civilization and assimilation on the increase of the disease among them was shown. The Mongol and Hindoo races, among whom hysteria is relatively less frequent, also received consideration.

It was therefore shown that hysteria exists among all peoples and in all countries, and the fact that certain races, as the Jew, the Slav, the Latin and possibly the negro are relatively more affected may be attributed to causes of environment rather than inherent qualities, for as Jacobs says, if all the Johns and Maries were to be shut up in ghetto for a couple of centuries, they would undoubtedly show peculiarities in habits and thought and would develop a peculiar psychology. Heredity plays a rôle only in that a child may learn to imitate certain traits from a hysterical parent.

In conclusion it was emphasized that hysterical symptoms may exist as epiphenomena and a background in organic diseases among susceptible races. Nor is it to be forgotten that though symptoms of hysteria are well marked, the patient may at the same time have organic diseases. Better therapeutic results will, therefore, be obtained in cases where hysteria is relatively more common by the administration of drugs, suggestion and mechanical means of treatment directed against a latent hysterical condition in addition to the treatment for the organic disease if it is present.

Hysterical Aphonia.

Dr. George F. Cott read a paper on this subject, giving the various theories thus far advanced as to this condition. He pointed out the fallacy of physicians in general maintaining that the vocal organs are absolutely under the will and control of the patient since the latter is in reality possibly hopeless until proper psychic equilibrium is re-established. It was emphasized that in hysterical aphonia both cords are always similarly affected. He, however, cited a curious condition where there was anchylosis of the left arytenoid articulation leaving the cord fixed near the median line, and at every effort made by the patient to produce a sound, the false cord could be seen closing upon its fellow on the opposite side, and a harsh sound as a loud whisper was produced in this way. This again shows the possible function of the false cord. The paper closed by citing several peculiar and most interesting cases.

X-Rays in General Practice, with Lantern Slide Illustrations.

Dr. A. W. Baylish gave an interesting talk, illustrated by forty slides, on the advantages of this procedure in the diagnosis of surgical and medical cases. Fractures, foreign bodies, deformities of joints, as also tubercular chests and other interesting cases were shown.

ST. LOUIS MEDICAL SOCIETY OF MISSOURI.

Meeting held March 23.

Dr. L. E. Newman, President.

The Surgical Management of General Peritonitis, Resulting from Perforating Appendicitis.

Dr. John Young Brown read a paper on this subject. He thinks that as abdominal surgery has advanced, fewer cases of this character are seen, for the reason that the causes leading to widespread peritoneal involvement are now promptly recognized and as promptly relieved by surgery. He said that the condition known as general peritonitis yields to surgery, as is absolutely proven by the reports of many of our best operators, and he defines general peritonitis as widespread peritoneal inflammation, with bowel paresis, free filth pus and liquefied lymph, in the general peritoneal cavity, accompanied by rapid pulse, etc. The treatment is section, irrigation and drainage. His plan is to open the abdomen by a median incision. If the bowel distension is so great as to interfere with proper handling of the parts, the gas should be evacuated by bowel puncture in several places, care being taken to close the punctures with silk as soon as the purposes for which they were made are accomplished. This done, we should at once seek out the source of trouble—make such repairs of bowel as the local conditions warrant and then proceed to carefully cleanse the general cavity.

In regard to drainage, he does not believe the common practice of packing strips of gauze in different directions is a wise one. As Morris has pointed out, lymph is rapidly thrown out in the meshes of the gauze, and while it accomplishes its purposes as a drain, when it is removed raw and bleeding surfaces are left, frequently causing bowel adhesions and intestinal obstruction. A glass drainage-tube, placed at the most dependent point of the pelvis, and two or more small wick drains, placed in different directions, will accomplish all that can be done with gauze. The wicks, surrounded as they are with gutta-percha tissue, are free from the objections that plain gauze possesses. Through the glass tube we can, by means of the long syringe, manage to keep the cavity clean.

Dr. L. H. Laidley said that fear on the part of the surgeons of having a bad record in appendicitis had deprived many patients of their lives. The nomenclature should be revised in reporting cases, and general peritonitis from perforating appendicitis should not be called appendicitis. Present conditions and causes should be kept distinct. Some years ago he had reported a case of general peritonitis due to appendicitis. The patient had been operated on two years previously by another surgeon for appendicitis, and the subsequent peritonitis was due to breaking down of a plug of lymph. In his report he was criticised because he had not entered at the site of the appendix. But by median incision he was enabled to clear out the pus which filled the pelvic cavity and the patient recovered.

Dr. A. H. Meisenbach said that septic peritonitis was the opprobrium of abdominal surgery. It could be produced in two ways: 1, by rupture of the appendix; 2, by rupture of a walled-off appendiceal abscess. He considered four classes of appendicitis: 1, a simple inflammatory condition of the appendix; 2, abscesses walled off within the peritoneum; 3, free abscesses; 4, abscesses attached to the abdominal wall, and pointing externally. The first condition could always be successfully operated on. The second depends on the locality of incision. The fourth tends to recovery if there is not too much inflammation.

Dr. H. Jacobson believes in hunting out the appendix in almost all abscess cases, and flushing the abdominal cavity is better than packing gauze between the bowels. As in all cases of peritonitis, the toxemia causes more or less paresis, and the exudation present causes adhesions, which become more marked and dangerous to life if gauze strips are packed between the folds of the inflamed bowels.

Dr. R. M. Funkhouser has had few cases of the sort described in the paper, and thinks it safer to drain. He has made it a rule to flush the abdominal cavity with a weak solution of permanganate of potash, and has no cause to regret it. In some cases, packing with gauze has also seemed effective, though he would not pack high up. In operating for a localized peritonitis, he thinks there is no safer drain than a gauze wick surrounded by rubber tissue.

Dr. M. B. Clopton said that there seems to be two types of peritonitis following appendicitis. In one the exudate is a cloudy fluid containing streptococci, in the other, colon bacilli are found, adhesions are more numerous and the process slower. In the first condition irrigation would be effective, hardly in the second. Wiping off the intestines requires too much time. For irrigation, it is better to have the water under pressure. Complete drainage is hard to attain. The prognosis seems better where the inflammatory condition from the appendix is high up.

Dr. C. M. Nicholson said that all methods were unsatisfactory in some respects. He spoke of Fowler's latest method, of placing the patient at an angle of 45 degrees and opening at the most dependent portion. Fowler reported nine cases in his first paper and three in his second, all of which recovered. If any of these were cases of general peritonitis, there would seem to be something in the method. If localized, the term general peritonitis ought not be used: the conditions should be differentiated.

Dr. A. H. Meisenbach added that in cases where the abscess is attached to the abdominal wall, it is foolishness to hunt for the appendix; poking around may cause general infection of the peritoneal cavity. Nature takes care of the appendix in this class of cases, and he has never seen recurrence.

PHILADELPHIA PEDIATRIC SOCIETY.

Meeting held March 12.

Dr. T. S. Westcott in the chair.

Intestinal Sand.

Dr. J. A. Scott read a brief paper on this topic, making a short resumé of the literature, which includes but six or seven articles. La Baulbene in 1873 first reported a case in which sandy material, which proved to be vegetable material with silicious particles attached, passed per rectum. He calls this material *sable intestinale.* Sheridan Delapine, in 1880, reported four cases before the London Pathological Society, followed in more recent years by D. Thomas, Lamb, G. Shattuck, Dieulafoy, Matthew and Rieuchaud, R. S. Thomson and Alex. R. Ferguson, and Eichhorst. Dr. Scott's first case was a patient of Dr. J. M. Da Costa, a woman about 40, with no organic lesions, who passed gritty material with the stools. Examination showed it to be a light yellow or yellowish-red concretion, not unlike brick-dust in appearance, microscopically looking like uric acid, but careful examination by chemical methods showed the absence of uric acid. It was considered vegetable in origin. The second case was that of a child aged 3¼ years, for eight months subject to attacks of duodenal and iliac catarrh, with marked toxemic symptoms. In the beginning of these attacks, together with undigested curds and mucus, would be found a very firm, gritty, reddish or pinkish sand, which would disappear as the stools approached normal. After maceration in strong acids the sand would gradually soften, with but little effervescence, and gummy material, crystals looking like those of fatty acids, such as are seen in fat necrosis, and epithelial cells were found. The tendency for certain materials to remain for long periods in the intestine was mentioned. A specimen of biliary sand—cholesterin—was also shown.

Dr. A. A. Eshner stated that he regards the condition somewhat a rare one.

Dr. J. P. Crozer Griffith called attention to the habits of children in placing different objects in the mouth. These may be composed of sandy material, as mortar from the wall of a brick house, etc. In some cases, however, the condition may possibly result from the precipitation of the salts from the milk combined with the acids of the body.

Anatomy of Childhood.

Dr. George McLellan, by invitation, delivered an address on this subject, illustrated by original photographs, preparations and lantern slides. The speaker outlined the changes which occurred in the skeleton during infancy, childhood, and adult life.

Dr. O. H. Allis called attention to the changes in the bony arches, and the differences in the relative position of the abdominal organs during infancy and adult life.

PHILADELPHIA PATHOLOGICAL SOCIETY.

Meeting held March 14.

President, Dr. Frederick A. Packard, in the chair.

Snake Venom.

Dr. Joseph McFarland made some remarks on snake venom, referring to the work of Fontana, Mitchell, Reichert and Calmette, and stating that the venom from serpents may be conveniently classified into that obtained from vipers and that from cobras. The venom of all serpents is alike in color, and the secretion corresponds to that from the parotid glands of man. The venom may be collected by catching the serpent around the head by means of a piece of leather fastened on the end of a stick, after which its mouth may be opened and the secretion pressed out. Venoms irritate the mucous membranes, and when injected under the skin they produce local necrosis, hemorrhagic extravasations, and more or less toxic symptoms. Animals succumb from the poison due to its action on the heart. Chemically the venom consists of globulins and peptones, the former of which may be precipitated by heat, leaving the peptones in solution. Globulins paralyze the respiratory centers. Calmette heated the venom, thus getting rid of the globulins, and injecting the peptones into animals, producing a certain degree of immunity against snake bite. The speaker had experimented with rattlesnakes, copperheads, etc. The hog and the mangoose have a natural immunity. He has endeavored to render the horse immune against snake bite, and partially succeeded. He has also been able to obtain an antivenene which gave partial immunity to rabbits. As the venom of different snakes varies, it may be that one variety of antivenene may not be protective against the bite of certain kinds of serpents.

In his experiments he first used rattlesnake venom and later that of the cobra. The first series of experiments was made with unheated venom, the second with unheated venom introduced under the skin, and the third by injecting the unheated venom immediately into the veins. The heated venoms produced little reaction, while the unheated killed rabbits in from a few minutes to two hours. The heated produced a partial immunity against the unheated. The secretion of the cobra, introduced under the skin of the horse, produced extensive swelling, followed by suppuration. He next injected venom into the veins and at no time was there any local reaction, but he obtained physiologic effects, such as increased rapidity of the heart's beat, and accelerated and shallow respirations. The serum from the horse which had received the injections was tested three different times, and no alteration from the normal could be found. After using unheated venoms, a reaction was obtained. The serum seems to have the greatest antitoxic power subsequent to the injection of large doses ot venom. He has obtained an antivenene 2 c.c. of which will protect rabbits against an ordinary fatal bite.

Dr. J. Dutton Steele asked as to the dose of antivenomous serum to be given in the case of man.

Dr. Frederick Packard asked whether the peptones killed by the paralyzant effects on the heart.

Dr. McFarland, in reply to Dr. Steele, stated that about 10 c.c. of the serum should be injected. As to the question of Dr. Packard, the peptones seem to kill by action on the respiratory centers. The globulins act on the blood-vessels, allowing the extravasation of serum and blood-corpuscles. In his opinion whisky is contraindicated in all cases of rattlesnake bite. Strychnin would appear to be the best drug. As to local treatment, Calmette advises immediate ligation and cupping, or sucking out of the poison, after which a 10 per cent. solution of chlorid of lime should be injected into about ten different localities immediately surrounding the wound. Probably one reason that the supposed good effects result from the administration of whisky in snake bites of all kinds, except those of the rattlesnake, is that injuries of this kind are rarely fatal in this country.

Carbohydrates of Urine in Diabetes Insipidus.

Dr. David L. Edsall read a paper on the subject. After reviewing the literature regarding the estimation of carbohydrates in diabetic urine, he detailed a case. The patient was a man, 27 years of age, under the charge of Dr. Alfred Stengel. In June, 1900, he suffered from polyuria, emaciation and thirst. When admitted to the hospital he was suffering from typhoid fever. At this time there was no acetone, nor diacetic acid in the urine. After recovering from typhoid the condition of diabetes insipidus was watched carefully. He found no increase in the fermentable carbohydrates. Normally they should be about 2 grams daily. The nitrogen was also estimated to see whether the benzo-esters fluctuated with it, and he found that they fluctuated synchronously, depending somewhat on the amount of fluids taken. The patient was kept on a regulated and constant diet. His results proved that the diet plays a most important part in the excretion of unfermentable carbohydrates.

Therapeutics.

Venereal Papillomata.

A subscriber asks for a short statement of the best treatment of venereal warts. He has used nitric acid, cautery, carbonate of soda, caustic potash, and has ligated them, and no improvement; they always return.

Answer.—As our inquirer seems to have employed unsuccessfully the usual methods of treatment, we give below other preparations which will probably permanently destroy the growths.

Lang gives the following treatment:

℞. Ferri sesquichloridi cryst.
Spts. vini dil., āā .... ʒiiss 10|

M. Sig.: To be painted on the pedunculated venereal papillomata.

He suggests, sometimes, the following, which is painful when applied, but quickly removes the warts:

℞. Liquoris potassæ causticæ (30 per cent.) ʒii 8|
Lythargyri .... gr. iv |25

M. Sig.: To be applied *carefully only* to small and broad-based *venereal papillomata, by means of a fine cotton* tampon or a pointed piece of wood, or to be rubbed in until the base *of the* wart becomes covered with a scab on a level with the surrounding integument, or somewhat below it; the part is then to be covered with a gauze bandage.

℞. Acidi arsenosi.
Morph. muriatis, āā .... gr. iv |25
Hydrarg. chloridi mitis .... ʒss 2|
Pulv. acaciæ .... ʒiii 12|

M. Sig.: To be applied to the venereal warts.

He also recommends *resorcin in powder form, as follows:*

℞. Resorcini .... ʒii 8|
Sacch. albi .... gr. xv 1|

M. *Sig.: to be applied locally.*

Or,

℞. Resorcini .... ʒss-ʒiss 2-6|
Aq. destil. .... ℥iii 96|

M. Sig.: Apply locally.

Very large papillomata which can not be made to disappear by means of local application, should be removed by surgical measures, as the sharp *spoon or* scissors, and the base cauterized with Paquelin cautery; local anesthesia will usually suffice for this operation.

Treatment of Chancroid.

Sturgis, of New York, outlines the following treatment for chancroid:

First arrest the virulent and destructive *character of the* ulcer, either with the actual cautery or other caustics in severe cases, and by alterative applications in mild ones. For the severe cases, as destructive agents either the actual cau*tery or the galvano-cautery can be used; strong* sulphuric acid; pure nitric acid; pure carbolic or chromic acid.

As dressings subsequently the following powders are in common use:

℞. Pulv. iodoformi .... ʒiss 6|
Lycopodii .... ʒii 8|

M. Sig.: Apply locally.

Or, as an astringent:

℞. Pulv. iodoformi.
Pulv. acid. tannici, āā .... ʒii 8|

M. Sig.: Use locally.

Or,

℞. Pulv. iodoformi .... ʒi 4|
Zinci sulphatis .... gr. v |30
Pulv. ac. tannici .... ʒi 4|

M. Sig.: For local application.

If wet dressings are preferable to dry ones, then a carbolized *solution of* water of 1 per cent. strength; or a solution of zinc *sulphate, about 5 grains to the ounce, can be used.* Where the chancroids are concealed either in the urethra or behind a phimosis, a dressing containing the following lotion is recommended by Sturgis:

℞. Lig. plumbi subacetat.
Tinct. opii, āā .... ℥i 32|
Aquæ, q. s. ad .... ℥viii 256|

M. Sig.: *Use locally as a dressing at night.* The *genitals* should be bathed in hot water several times through the day.

Treatment of Syphilis.

As distinguished from the treatment of chancroid, which, like gonorrhea, is only local in its effects, the initial sore of syphilis should never be cauterized nor excised; nor is it necessary that the mercurial treatment be begun with the appearance of the chancre, as it is powerless to check the infection. The treatment should be of the simplest kind, consisting of stimulating and protective dressings. As dry dressings the following are recommended, of which the iodoform is much the best although disagreeable in odor:

℞. Pulv. iodoformi ....ʒiiss 10|
Hydrarg. chloridi mitis.............ʒiss 6|

M. Sig.: Apply locally to the sore.

Or,

℞. Bismuthi subgallati ....ʒii 8|
Pulv. lycopodii ....ʒi 4|

M. Sig.: Apply locally.

When the chancres present a destructive tendency then apply the following:

℞. Hydrargyri chloridi mitis............ʒii 8|

Sig.: Apply locally.

As a rule the tendency of the initial sore is toward healing and cicatrization unless unwisely treated, so that it is better to use the milder dressings locally, such as aristol, iodol, europhen, nosophen, acetanilid or orthoform. As a wet dressing, if it is thought best to apply such, one of the following is probably preferable:

℞. Acidi carbol. ....gr. ii-iv |12-25
Aquæ. ....℥iv 128|

M. Sig.: Apply on lint two or three times a day.

Or,

℞. Sol. hydrarg. chloridi corros. (1:1000 or 1:300).

Sig.: Apply locally every three or four hours.

Or,

℞. Hydrogeni peroxidi ....℥ss 16|
Ag. destil ....℥iv 128|

M. Sig.: Apply locally three or four times a day.

In treatment of the initial sore in women, Lang, in "Twentieth Century Pract.", recommends the following:

℞. Hydrarg. chloridi corros........gr. ¾-iii |05-20
Spts. vini
Spts. etheris sulph. āā..............ʒiiss 10|

M. Sig.: To be painted on the affected part.

Or,

℞. Ung. hydrarg. ....lxxv 5|
Ol. theobromæ ....ʒiiss 10|.

M. Ft. Suppos. No. x. Sig.: One to be placed in the vagina. These may be borne by pregnant women.

TREATMENT OF MUCOUS PATCHES.

The patient should be instructed to keep the nose and mouth scrupulously clean by frequently rinsing the mouth and nasal cavities. He should avoid chewing tobacco and smoking in order to prevent relapse. Silver nitrate applied locally to the ulcers every few days gives very good results. As a gargle to cleanse the mouth the following is of service:

℞. Potassii chloratis.................gr. xl 2|66
Tinct. myrrhæ ....ʒiv 16|
Aq. destil. ....℥iv 128|

M. Sig.: Use as gargle two or three times a day.

TREATMENT OF PUSTULAR SYPHILIDS.

℞. Hydrarg. chloridi corros...........gr. iii |20
Alcoholis
Tinct. benzoini
Glycerini, āā ....ʒi 4|
Aq. rosæ q. s. ad....................℥iii 96|

M. Sig.: Apply locally.

PALMAR SYPHILIDS.

Ohmann-Dumesnil recommends the following:

℞. Acidi salicylici...................gr. xx 1|30
Ichthyoli ....ʒss 2|
Ung. aq. rosæ........................℥i 32|

Misce. Sig.: Apply night and morning.

After the lesions have disappeared, apply the following to ward off recurrences:

℞. Hydrarg. chloridi mitis............gr. xv 1|
Ung. aquæ rosæ......................℥i 32|

M. Sig.: Apply locally night and morning.

CONSTITUTIONAL TREATMENT.

It is generally stated that constitutional treatment should not be employed until the secondary stage has made its appearance, claiming in this way to avoid mistakes in diagnosis, as the administration of mercury might retard the outbreak of the secondary symptoms. Mercury is the preparation for the early constitutional treatment, which may be employed in the form of an inunction, in vapor form, given hypodermically or per os.

As an inunction, Shoemaker states that the efficacy of the ointment of mercury may be increased by combining with it some stimulating oil or green soap:

℞. Ung. hydrarg, nitratis
Saponis viridis, āā..................℥iss 48|
Olei eucalypti ....ʒss 2|

M. Sig.: Rub in well into the inner part of the thigh or arm, a piece the size of a marble once daily.

Or,

℞. Ung. hydrarg. ammon.................℥ii 64|
Olei anthemidis ....ʒss 2|

M. Sig.: Apply locally.

Or,

℞. Ung. hydrarg. oleatis (10 per cent.)...℥ii 64|
Olei cadini ....ʒii 8|

M. Sig.: Apply locally.

In severe cases of secondary syphilis, Dr. Dymnecki states that he derived benefit from the administration of quinin internally, associated with the inunction of mercury.

The place of applying the ointment must be changed. The points most favorable to the application are the inner aspects of the arms or thighs, the soles of the feet, before putting on the stockings in the morning.

HYPODERMICALLY.

R. Tablets hydrarg. chlor. corros., āā..gr 1/25

Sig.: Inject once or twice daily, between the scapulae, or deep into the gluteal muscles.

BY FUMIGATION.

The patient is first advised to take a bath. He is then seated upon a chair with a perforated seat, beneath which is placed an alcohol lamp. A metal saucer containing from thirty grains to one dram of mild chlorid of mercury is placed over the lamp. The patient is then covered with a cloak or rubber cloth which fits snugly around the neck, and extending to the floor. The lamp is then lighted and a mercurial vapor is produced, which is deposited on the body. After the patient has been exposed to the fumes for fifteen or twenty minutes, he is placed in bed for several hours. This treatment may be repeated daily.

BY THE MOUTH.

℞. Hydrarg. iodidi flavi, āā..........gr. 1/5 |012

Ft. pil. No. i. Sig.: One pill three times a day.

Or,

℞. Massæ hydrargyri................gr. iii |20

Or,

Fiat pil. No. i. Sig.: One such pill three or four times a day, after eating.

Or,

℞. Hydrarg. chloridi corros.........gr. 1/40 |0015
Sacch. lactis, q. s.

Fiat pil. No. i. Sig.: One such pill three times a day, after meals.

If the evacuations become too frequent or produce pain, small doses of pulverized opium may be given at the same time. Should the diarrhea still continue, the mercurials will have to be discontinued for a while.

Hutchinson states that mercury should be administered before the secondary symptoms have made their appearance, and that it is unwise to wait for these manifestations. He prefers the internal administration of mercury to either the inunction or the injection hypodermically. He uses the following:

℞. Hydrargyri cum creta..............gr. i
Pulveris opii.......................gr. ¼ |015

M. Ft. capsula No. i. Sig.: One such three times a day for the first week, then four times a day, and later increased to five times a day.

THE ADMINISTRATION OF THE IODIDS.

It must be remembered that the iodids are of but little benefit except in the later stages of the disease. The best preparation is the potassium or the sodium salt:

℞. Potassii iodidi ....℥i 32|
Aq. destil. ....℥i 32|

M. Sig.: Begin with ten drops and gradually increase the dose to the point of tolerance. These patients as a rule will tolerate daily doses ranging from 60 to 150 grains.

IODALBACID IN TREATMENT OF SYPHILIS.

When potassium iodid is administered in large doses almost the entire amount can be detected in the urine. For instance, if it is administered in 50 or 60 grain doses, 30 or 40 grains of that amount will be excreted by the kidneys, as it is very rapidly absorbed from the mucous membrane of the stomach and excreted almost as rapidly by the kidneys unchanged. The remaining portion is oxidized and liberates free iodin, which is in part excreted and in part is combined with the albumin. In speaking of this Zuelzer, as noted in the *Med. Review*, speaks of *iodalbacid*, which is a combination of iodin (10 per cent.) and albumin. It is much more slowly absorbed than potassium iodid, more slowly oxidized and consequently more slowly excreted. He states that in very acute cases of tertiary syphilis, in which a rapid effect is desired, potassium iodid, if well borne, is preferable to this newer preparation. In all other cases, especially when a slow but protracted action is required, iodalbacid is superior to potassium iodid.

ANEMIA IN SYPHILIS.

℞. Ferri et quin. citratis..............ʒiiss 10|
Ft. pil. No. xxx. Sig. One pill three times a day.

Medicolegal.

Fifteen Thousand Dollars for Personal Injuries.—On the appeal of the Galveston, Harrisburg & San Antonio Railway Company vs. Eckles, the Court of Civil Appeals of Texas approves of allowing a switchman $15,000 damages for personal injuries. The evidence introduced by the latter, it says, established that he had been transformed, by the injuries inflicted on him, from a robust young man into a pitiable wreck in mind and body, and that for ten years he had suffered intensely. The jury returned a verdict for $30,000. From this $10,000 was voluntarily remitted. On the first hearing, though it was the third time that the case was before it, the court of civil appeals declared that it did not feel authorized to hold this verdict excessive as reduced by the remittitur. But, on rehearing, it decided to affirm the judgment of the court below conditioned on enough be remitted to make the verdict not exceed fifteen thousand dollars. More particularly, it appears that the man's head was mashed so that blood spurted out from his ears, and one of his eyes was forced from its socket and hung from his cheek; that unconsciousness resulted for two or three weeks; that he was in bed for many months; that his skull was fractured, and portions of it taken out; and, in short, that his physical and mental condition had been changed as before stated.

Physical Examination of Insane Person.—When one who is afflicted has been deprived of his liberty and property, and is seeking to regain their possession by establishing his present competency, Mr. Justice Ftzgerald holds, at a special term of the Supreme Court of New York, New York County, *In re* Newcomb, that the court should proceed with great care, to the end that he be not subjected to any harassing or oppressive conditions. Assuredly, he should be spared annoyances calculated to exercise painful influences, or cause him undue excitement; and to subject him to examination by doctors who have committed themselves by previously expressed sworn statements to the effect that his malady is incurable, the judge says, would appear to be a hardship. Wherefore, in this case, a that certain physicians be allowed to make a physi mental examination of an applicant for the discharge committee of his property was denied, objection having made to one of the physicians that he was personally distasteful to the party seeking to establish his competency, and to others of them that they had committed themselves to the diagnosis that he was suffering from an incurable mental disease.

Not Death During Intemperate Use of Intoxicants.—One of the provisions in a policy of life insurance was that in case the person whose life was insured should become intemperate in the use of intoxicating liquors or opium, the company might, at its option, cancel the policy. Another was that should the insured die during or by reason of the violation of the foregoing provision, then the reserve value of the policy only should be paid. The insured drank a good deal, it appeared, but his death was from consumption, and he was unable for several months before his death to drink as much whisky as the physicians prescribed for him. Under these circumstances, the Court of Appeals of Kentucky holds, Union Central Life Insurance Company vs. Hughes' administrator, that, the insured having been an invalid for six months before he died, and his habits during that time good as to the use of intoxicating liquor, it could not be said that he died during a violation of the stipulation of the policy against the intemperate use of intoxicating liquors, and that the full amount of the policy was payable.

The Defense of Insanity Broadly Considered.—Under the Oklahoma statutes the test of responsibility for crime is fixed at the point where one has the mental capacity to know that the act is wrong, and if one has sufficient mental capacity to distinguish between right and wrong, as applied to the particular act, and to understand the nature and consequences of such act, he is responsible for the same. It is immaterial, the Supreme Court of Oklahoma says, in Maas vs. Territory, what standard scientific men may fix, or by what rules the medical profession determines that one is a lunatic or insane, he is in law insane or a lunatic, or of unsound mind, or temporarily or partially deprived of reason, to such an extent as will excuse him from punishment, only when he has not the capacity to know the wrongfulness of the particular act. But the knowledge of the wrongfulness of an act also embraces capacity to understand the nature and consequences of the same. Upon the question of the extent to which the duty of proving that he was incapable of knowing the wrongfulness of the act is upon the defendant the authorities differ. Two states, New Jersey and Delaware, follow the rule that he must prove his insanity beyond a reasonable doubt before he can be acquitted. Perhaps, on the other hand, two-thirds of the states follow the rule that the defendant must prove his insanity by a preponderance of the evidence. Among the states following this rule are Alabama, Arkansas, California, Connecticut, Georgia, Idaho, Iowa, Kentucky, Louisiana, Maine, Massachusetts, Minnesota, Missouri, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, Virginia, West Virginia, and Nevada, and this is the rule in England. But with the development of criminal law, and the advancement of civilization, the rules which once governed the defense of insanity, the court goes on to say, are being relaxed so as to give defendants the fullest opportunity to present the truth to the court and jury, that full justice may be done; and, while it is true that this defense is sometimes successfully manufactured and imposed upon courts and juries, the adjudicated cases show no greater abuse of this defense than of the defense of alibi or self-defense. The defense of insanity, when successfully made, appeals to the tenderest sentiments and mercies of the jury, but when feigned and detected it invites their utmost contempt; and, while juries are always ready to deal kindly with one who is so unfortunate as to be dethroned of his reason to such an extent that he can not distinguish between right and wrong, they are also, as a rule, quick to punish a guilty defendant who tries to escape the result of his act through fraud and deceit. Therefore, viewing this defense from every standpoint, the court sees no d reason why the defense of insanity should be singled out rned by rules as to burden of proof different from ther cases, and it feels constrained to n of proof, where the defense is insanity, to be this: Every person is presumed to be sane, or of sound mind, and able to distinguish between right and wrong, as applied to the particular act, and to understand the nature and consequence of such act; and the burden is upon the defendant in the first instance to overcome this presumption by introducing sufficient evidence to raise a reasonable doubt as to his sanity. When this is done, then the state must prove the defendant's sanity beyond a reasonable doubt, in order to secure a conviction; and if, taking the evidence all together, the jury entertains a reasonable doubt as to the defendant's sanity, he should be acquitted. This rule is now the settled law of Illinois, Indiana, Kansas, Michigan, Mississippi, New Hampshire, New York and Nebraska.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, March 23.

1 *Toxicology of Tellurium Compounds, with Some Notes on the Therapeutic Value of Tellurates. William J. Gies.
2 *Some Modern Gynecological Resources. Augustin H. Goelet.
3 Dejerine-Erb Type of Upper-arm Palsy Following Multiple Neuritis. D. J. McCarthy.
4 *A New Treatment for Tuberculous Glands of the Neck with Minimal Scarring, Involving a Method of Sterilizing a Tuberculous Region Through the Lymph Channels. G. Betton Massey.
5 Strangulated and Gangrenous Hernia. Kelotomy and Laparotomy in Strangulation, External and Internal; Artificial Anus—Enterostomy, Primary or Secondary Resection—Enterectomy, and End-to-End or Lateral Jointing in Gangrenous Hernia. (Continued.) Thomas H. Manley.

New York Medical Journal, March 23.

6 *Some Retrospects and Prospects in Genito-urinary Surgery. Reginald Harrison.
7 *The Physical Examination of the Stomach. Mark L. Knapp.
8 *Infective Sigmoid Sinus Thrombosis. Clarence R. Dufour.
9 The Pathology of Intrauterine Death. (Continued.) Neil McPhatter.
10 *Emphysema of the Eyelid from Nasal Causes. Beaman Douglass.

Medical News (N. Y.), March 23.

11 *Cerebrospinal Meningitis (Weichselbaum Jaeger) Treated by Repeated Lumbar Puncture. Henry Koplik.
12 *Drainage in Abdominal Surgery. J. W. Long.
13 *Vertigo; A Stomach Lesion. Martin A. H. Thelberg.
14 An Interesting Case of Splenic Anemia. Herbert Maxon King.

Medical Record (N. Y.), March 23.

15 *1. A Case of Ambulatory Typhoid Fever with Intestinal Perforation. 2. A Case of Traumatic Rupture of the Intestine; Operation; Recoveries. Remarks Concerning Operation in Cases of Typhoid Fever with Intestinal Perforation. A. A. Berg.
16 *Chronic Gonorrhea and Marriage. Ludwig Weiss.
17 *Excision of Aneurysm, with a Report of Two Cases of Femoral Aneurysm so Treated. George Ryerson Fowler.
18 *Conservatism in the Diagnosis and Treatment of Prostatic Hypertrophy. James R. Hayden.
19 Subphrenic Abscess as a Complication of Appendicitis. J. McF. Gaston, Jr.
20 *Surgical Treatment of Abdominal Dropsy Following Cirrhosis of the Liver. James T. Jelks.

Boston Medical and Surgical Journal, March 21.

21 Puerperal Insanity. Arthur C. Jelly.
22 *Meat Ration in the Tropics. P. R. Egan.
23 *Bubonic Plague. Joseph J. Curry.
24 A Case of Retroperitoneal Lymphangiosarcoma: Operation; Recovery; No Recurrence After Two Years. T. B. Lund.
25 Vomiting of Pregnancy—Suspension of Pregnant Uterus—Extrauterine Pregnancy—Operation for Fibroids. Reported by J. Oswald Vogel

Cincinnati Lancet-Clinic, March 23.

26 *Intestinal Vegetations. I. F. Tunison.
27 *Occupations Which Produce Rectal Diseases. Geo. J. Monroe.
28 A New Remedy for Hemorrhoids. E. V. Hall.

St. Louis Medical Review, March 16.

29 *Middle-Ear Disease in its Relationship to the Cranial Cavity. Otto Stein. With Abstracts of Five Cases, Explanatory of Illustrations. (Continued.) Carl Barck.

Medical Age (Detroit, Mich.), March 10.

30 *The Use and Abuse of the Galvanocautery in Nasal Surgery. C. D. Conkey.
31 Remarks on the Surgery of the Nineteenth Century. Hal C. Wyman.

Virginia Medical Semi-Monthly (Richmond), Feb. 22.

32 Acute and Chronic Bright's Disease: Symptoms, Etiology, Treatment, etc. Frederick Horner.
33 Our Conduct During Labor. Elmer Sothoron.
34 Notes on Epidemic Influenza. G. W. Drake.
35 A Handy Device in the Treatment of Opium Narcosis. W. H. Lyne.
36 Safety Pin in the Larynx—Removal by Tracheotomy. Walter A. Wells.
37 *Intestinal Indigestion (Dystrypsia Intestinalis), Nature and Concept. John C. Hemmeter.
38 *To Cut or Crush in Stone of the Urinary Bladder. Stuart McGuire.
39 *Have We a New Treatment for General Septic Infections? Van Telburg-Hofman.
40 *Uterine Reflexes. J. N. Upshur.
41 Moot Questions in Abdominal Surgery. H. A. Royster.
42 Gonorrhea and Chancroid—Their Modern Treatment. M. A. Auerbach.

Fort Wayne Medical Journal-Magazine, February.

43 Law and Insanity. H. I. Smith.
44 Criminals from the Standpoint of a Physician. W. D. Calvin.

Annals of Gynecology and Pediatry (Boston), March.

45 *A Plea for Enterostomy in Acute Intestinal Obstruction. Emanuel J. Senn.
46 *Topical Applications in Gynecologic Practice: Their Use and Abuse. J. M. Andrews.
47 Angio-neurotic Oedema of a Rheumatic and Scorbutic Affection. S. Sellikovitch.
48 Laryngeal Habit Spasm with Report of a Case. Luther C. Peter.
49 *Case of "Head-Knocking" of Medicolegal Interest. Charles J. Aldrich.

Clinical Review (Chicago), March.

50 Some Points in the Diagnosis of the More Common Gynecological Diseases. Thomas J. Watkins.
51 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
52 The Treatment of Bronchitis. J. M. Patton.

Woman's Medical Journal (Toledo, Ohio), February.

53 *Physiology and Folklore of Pregnancy. Harriet C. B. Alexander.
54 Etiology of Puerperal Eclampsia. Jeannette C. Wallace.

The Post-Graduate (N. Y.), March.

55 *The Cure of Procidentia Uteri. Bache Emmet.
56 Palpation of the Uterine Appendages. George Gray Ward, Jr.
57 Cesarean Section for Fibrocystic Uterine Tumor. George L. Brodhead.
58 Obstetrical Notes. R. Cronson.
59 Report of Clinics. (Cystic Ovary.) H. J. Boldt.
60 Report of Clinic. (Retroversion of Uterus, Endometritis, Chronic Appendicitis, etc.) Prof. Edebohls.

Medical Fortnightly (St. Louis), March 11.

61 London Hospitals. Warren Brown.
62 Practical Hydrotherapy. Frank R. Fry.
63 Pernicious Malaria. Arthur R. Edwards.
64 *The Clinical Value of Purgative Mineral Waters. Edwin Rosenthal.

American Practitioner and News (Louisville, Ky.), Feb. 15.

65 *Circumcision. Ernest G. Mark.
66 *A Few Notes on Naso-Pharyngeal Diseases Common to the Adult. S. G. Dabney.
67 *The Dangers of Glassware. J. S. Hoskins.

Albany Medical Annals, March.

68 The Duty of the State Toward its Idiotic and Feeble-minded. John F. Fitzgerald.
69 The Value of Antitoxin in the Prophylaxis of Diphtheria. Henry L. K. Shaw.
70 Discussion of Paper of Dr. J. Collins Warren. Robert T. Morris.
71 Report of an External Urethrotomy: Wheelhouse Operation. J. W. Wiltse.
72 Hyperplasia of the Pituitary Body with Eburnation of the Skull. J. M. Mosher and George Blumer.

Chicago Medical Recorder, March.

73 Resection of the Gasserian Ganglion. Carl Beck.
74 *Exophthalmic Goiter Successfully Treated with Collodion Dressings. Allen T. Haight.
75 New Method of Skiagraphic Diagnosis for Renal and Ureteral Surgery. G. Kolischer.
76 Pylorectomy for Cancer. Arthur D. Bevan.
77 *Interstitial Gingivitis as a Prominent Obvious Early Symptom of Autointoxication and Drug Poisoning. Eugene S. Talbot.
78 A Case of Laryngeal Stenosis and a Case of Infantile Scurvy. I. A. Abt.
79 *Have We a Continued Fever Which is Neither Typhoid Nor Malarial? T. J. Happel.

Western Medical Review (Lincoln, Neb.), March 15.

80 *Operative Management of Tubercular Hip-Joint Disease—A Critique. A. F. Jonas.

81 *Insanity in Women Associated with Pelvic Diseases. W. O. Henry.
82 *Topical Applications in Gynecological Practice; Their Use and Abuse. J. W. Andrews.
83 Hernia of the Bladder. Charles C. Allison.
84 Some Cases of Abdominal Section. (Strangulated Hernia, Appendicitis, etc.) A. B. Anderson.

Canadian Practitioner and Review (Toronto), March.

85 The Relation of Ovarian Disease to Insanity and its Treatment. A. T. Hobbs.
86 Asheville, N. C., as a Health Resort for Pulmonary Tuberculosis. J. Price-Brown.
87 Cancer of Uterus. C. Wagner.
88 Report of an Operation for Jacksonian Epilepsy. H. M. Thomas.

Oklahoma Medical Journal (Guthrie), March.

89 Fever—What Is It? How Shall We Treat It? C. B. Bradford.

Medical Bulletin (Philadelphia), March.

90 Urticaria. John V. Shoemaker.
91 *The Use of "Normal Salt Solution" in Typhoid Fever. George W. Pfromm.
92 *Heroin. W. Blair Stewart.
93 Neurasthenia and Insomnia. William Hooker Vail.

Peoria Medical Journal, March.

94 Report of Operations—Genital Prolapse in Women and its Cure; Removal of Gall-Bladder by the W. J. Mayo Method; Septic Infiltration of the Abdominal Walls Following an Attack of Appendicitis; Stenosis of the Pylorus Following Gastric Ulcer. J. F. Percy.
95 Medical Charities in Their Relation to the Public, to the Profession, and to the Individual Physician. Emil Amberg.

International Medical Magazine (N. Y.), March.

96 *Common Anomalies of the Colon. W. Wayne Babcock.
97 Leukemia and Pseudo-Leukemia. Charles H. Miner.
98 Certain Skin Diseases and Some of Their Complications. J. Frank Wallis.
99 Detection of Bile Pigment and Bile Acids. Determination of Uric Acid. A. Robin.
100 The Causes of Cough in Children. John Madison Taylor.
101 Acute Pharyngitis. E. B. Gleason.
102 The Routine Examination of Women Following Confinement. John Cooke Hirst.

Iowa Medical Journal (Des Moines), January 15.

103 Fractures of the Pelvis. J. N. Warren.

Denver Medical Times, March.

104 Address before Arapahoe County Medical Society. C. K. Fleming.
105 The Spectacle Diseases. James E. Free.
106 The Antiseptic Treatment of Gonorrhea. Louis Stern.
107 The Cecum and Appendix. Byron Robinson.

Journal of Medicine and Science (Portland, Maine), March.

108 *Nine Questions on Syphilis, with Answers from a Number of Authorities. B. B. Foster.
109 Eczema. G. A. Pudor.
110 Congenital Dislocation of the Shoulder, with Report of Two Cases. Daniel W. Marston.
111 Address at the Lincoln Club. E. E. Holt.
112 Electro-Therapeutics. (To be continued.) E. H. Judkins.

Canada Lancet, (Toronto), March.

113 Medical Ethics and What Pertains to a Physician's Reputation and Success. Herbert A. Bruce.
114 A Case of Puerperal Fever Treated with Antistreptococcus Serum—Recovery. A. H. Garratt.
115 *Remarks on Medical Aspects of the War in South Africa.* J. T. Fotheringham.
116 Cerebral Palsies of Children. Lusk and Parsons.
117 A Case of Laminectomy. G. A. Bingham.

Love's Medical Mirror (St. Louis, Mo.), February.

118 *Congenital Dislocation of the Shoulder with Report of Two Cases. Daniel W. Marston.
119 How to Write Well. Geo. F. Butler.
120 Topical Applications in Gynecological Practice—Their Use and Abuse. J. W. Andrews.
121 Defective Elimination and Buffalo Lithia Water as a Relief. I. N. Love.
122 *Salophen—A Summary. Edward C. Hill.

Medical Sentinel (Portland, Ore.), March.

123 Latest Investigations on Uric Diathesis. Otto S. Binswanger.
124 Face Presentation. J. S. Hammond.
126 Clinical Report of a Fatal Case of Hemorrhagic Smallpox. W. Gilbert Cole.

American Medical Compend (Toledo), March.

126 A Report of Two Cases of Appendicitis, with Unusual Complications. Wm. J. Gillette.
127 The Will, in Health and in Disease. Mary E. Law.
128 Gonorrheal Urethritis. H. E. Smead.
129 Hysteria. Anna G. Smith.
130 Therapeutics of the Various Derangements of Menstruation. D. E. Bowman.

New Orleans Medical and Surgical Journal, March.

131 *Cocain and Eucain in Local Anesthesia, as Applied by the Combined Infiltration and Regional Methods in Major Surgery of the Extremities, with Illustrative Cases. Burdett Atkinson Terrett.
132 *On Hypertrophy of the Left Ventricle in Plain Stenosis of the Mitral. Cosimo Noto.
133 *A Case of Labor with Triplets. T. B. Odom.

Medical Summary (Philadelphia), March.

134 Good Health. Geo. J. Monroe.
135 Boils—Abscesses. J. H. Yarnall.
136 Heroin Hydrochlorid in Grippe. William D. Blackwood.
137 Is the Cause of Malarial Disease Due to the Mosquito? J. F. Griffin.
138 Membranous Croup: A Comparison and a Lesson. P. J. Faughnan.
139 Hypodermatology. M. G. Price.
140 Treatment of Urethral Stricture by Electrolysis. H. B. Stanley.
141 Treatment of Jaundice. G. O. Smith.
142 Report of a Rare Case. (Skin Complications in Gout.) W. H. Bentley.
143 Perinephritic Abscess. C. E. Tucker.
144 Pneumonia and its Treatment. J. W. P. Smithwick.

Texas Medical News (Austin), February.

145 Two Interesting Cases of Hernia, One of Them Strangulated, Operation with Recovery in Each Case. H. A. Barr.
146 The Evils Resulting from Tight Lacing. B. F. Calhoun.
147 A Fatal Hemophilia of a New-Born. E. A. Malsch.
148 A Simple Device in Draining the Bladder for Cystitis in Female. J. H. Reuss.
149 The Role of the Mosquito in Malarial Infection. Walter Shropshire.

AMERICAN.

1. **Tellurium Compounds.**—Gies' article is a review of the facts so far as known and published of the action of tellurium compounds on plants, animals, and man. The author has also made original experiments on dogs, in connection with Mr. L. D. Mead, and they found that nontoxic doses of tellurium, several times as great as the therapeutic dose, and in the forms of oxid, tellurite, tartrate, and tellurate, did not materially affect metabolism in dogs, brought to the state of metabolic equilibrium, even when dosage was continued for a week. The substance appeared to stimulate proteid catabolism only slightly. It increased somewhat the weight of the dry matter in the feces and slightly diminished the absorption of fat. The urine was unaffected, excepting that it became dark brown in color. Excessive doses retarded gastric digestion, and caused vomiting, anorexia and somnolence. They also caused inflammation and disintegration of the gastric and intestinal mucosa and intestinal hemorrhage. Introduced under the skin tellurium caused restlessness, tremor, weakening of reflexes, somnolence, diarrhea, paralysis, unconsciousness, stoppage of respiration and death in convulsions from asphyxia. Much of the tellurium was deposited in metallic form, but it was also distributed throughout the organs and tissues. It was found that tellurium compounds in small proportions diminished the secretion of gastric acid, but did not increase intestinal putrefaction or diminish the action of trypsin or pepsin outside the body. Zymolysis was almost unaffected in the presence of almost as much as 1.25 per cent. of the salts. Ptyalin was more easily affected, even by the faintly alkaline tellurate. Tellurium was eliminated in the metallic form in the feces; as methyl telluride in the breath, urine, feces and epidural secretion; in a soluble form in small quantities in the urine and bile. The return of the urine to normal color was rapid after discontinuance of the administration. Albumin and bile pigment, besides tellurium, were the abnormal constituents of urine found after hypodermic injections. Toxic quantities given by the mouth cause the appearance of coagulable proteid, but not bile pigment in the urine. The literature of its influence on man is reviewed and the peculiar odor which it gives to the breath specially noted. Its therapeutic value seems to be in its anhydrotic action chiefly. The alliaceous odor of the breath appears to be the chief objectionable feature from its therapeutic dose.

2. **Modern Gynecologic Instruments.**—Goelet's paper is a description of gynecologic instruments devised by him; the uterine dilator, tent cover, endoscope, and irrigator.

4. **Treatment of Tuberculous Glands.**—The treatment described is based on the destruction of bacilli by the cataphoric diffusion of nascent oxychlorid of mercury, developed in their midst by the electrolysis of metallic mercury on a small gold electrode. An opening is made through the skin and into the gland, and a sliver of amalgamated zinc is pushed in, non-insulated, and a weak galvanic current—one to three milliamperes—turned on gradually and maintained for a few minutes to cauterize the tract and keep it open for the treatment proper. When this is accomplished the zinc electrode is withdrawn and a gold electrode about the caliber of a No. 18 wire previously amalgamated with as much mercury as possible for a quarter of an inch from its point, the remainder of the instrument being insulated. From 2 to 10 milliamperes is now turned on and kept up for ten minutes or until all the mercury has been dissipated from the gold surface. After which a piece of absorbent cotton is placed over the opening and topped by a piece of plaster and the operation is repeated after two to three days. A drop of a 10 per cent. solution of cocain in the opening will deaden all pain. The purpose of the sinus thus formed is the drainage of the products of the dead bacilli and deposited chemicals, as well as to facilitate direct application. The chemical deposit will keep the wound antiseptic. Massey believes that the effect is not confined entirely to the gland operated on, but also involves other glands in connection with it He reports two cases thus treated.

6. **Genito-Urinary Surgery.**—The principal subjects noticed by Harrison are litholapaxy, which he considers one of the greatest advances of the century just closed, prostatic hypertrophy and also kidney disorders. He remarks, in regard to prostatic conditions, that the form of hypertrophy may be very variable, and cites a case where pedunculated hypertrophy caused a rectal valve action. The effect of such on the production of calculi is specially mentioned, also the surgical treatment of the kidney in cases of albuminuria, and he intends to submit the matter to the British Medical Association under the form of two questions: I. To what extent may kidney tension be responsible for permanent structural damage producing some forms of Bright's disease? 2. Under what circumstances, if any, is the removal of tension by surgical procedure expedient and justifiable? He thinks that there is perhaps a future for the surgery of this kind, and while he remarks on the possibility of toxic accidents, he believes that saturation of the urine with boric acid or other similar drugs before operation may easily serve to prevent them.

7. **Physical Examination of the Stomach.**—The methods of the physical examination of the stomach are described by Knapp, who includes under these specially percussion, inspection, palpation, and gastric distension and gastric transillumination.

8. **Infective Sigmoid Sinus Thrombosis.**—The symptoms, pathology and treatment of cerebral thrombosis from ear disease is described by Dufour, who pleads for the more careful lookout for symptoms pointing to this condition in cases of suppurative otitis media, and insists on the necessity of bearing in mind that the discharging ear is not a simple matter, but may at any time lead to serious and fatal complications.

10. **Emphysema of Eyelids.**—Douglass reports several cases showing that emphysema may occur in pathologic nasal conditions, all other causes being excluded, and asks whether it is a wound accident or results from pre-existing pathologic conditions. He considers that it is possible it may be the result of any wound; the surgeon can not be blamed for its occurrence. The reason why the upper lid is most affected is probably the fact that the wall of the orbit is as a rule perforated very near the middle, and that the air at once enters the space between the orbital periosteum and first fascia of the eyeball. It makes it way between the bony orbit and this fascia forward and backward, but finds less resistance forward than backward. The occurrence may be partially guarded against by avoiding the use of the curette as much as possible, and never amputating any part of the middle turbinate. While the condition has never been one of any seriousness, in his experience, it may be one from which great danger arises. Abscess, destruction of the eye, and possibly meningitis may follow from septic conditions in these operations.

11. **Cerebrospinal Meningitis.**—The varying views that have been held as to the part played by the diplococci of Weichselbaum, and that of Fraenkel, are noticed by Koplik, as also the epidemic and sporadic forms of the disease, and he analyzes the symptoms as reported in the literature and those of his own cases collectively. In this series lumbar puncture after the method of Quincke was performed at repeated intervals and the bacteriologic, microscopic and macroscopic details studied. All the diplococci obtained corresponded closely to Weichselbaum's description, and the same was found in all the cases. The puncture was carried on with all the details of antisepsis; most of the patients were operated on three times and one more frequently. There was no routine, but each case was studied by itself and treated according to its needs. The indications for puncture were continuous headache with somnolence, delirium, repeated chills with sharp rise of temperature, increase in the rigidity of opisthotonus, or increasing or continued coma. If the immediate effects were favorable, the procedure was repeated on any exacerbation of the symptoms, but if improvement continued the patient was not further disturbed. No ill effects of the method were observed. In one patient the affects were so remarkable that the patient requested that the procedure be repeated. In one case the primary lumbar puncture had no perceptible effect and the second one only a very temporary one; a dry tap followed and, after a few days, the fourth puncture, in which 10 c.c. of turbid fluid were withdrawn, was followed by gradual improvement. The operation, rather strangely, seems to have no marked effects on the pulse or respiration; only in some cases is the pulse temporarily diminished in frequency. This is important because, when respiration ceases before the fatal issue, the heart still acting, lumbar puncture will not apparently aid us in re-establishing the respiratory function. Reviewing the results it can be safely said that lumbar puncture has relieved tension chiefly in diminution of pain and reduction of those symptoms which may be traced to toxic or mechanical pressure. Withdrawal of an appreciable amount of any fluid, from the spinal canal, which contains bacteria and their toxic products ought to be beneficial in the long run. The operation, Koplik thinks, will certainly come more and more into favor and take its place as a curative method. The five cases are reported in detail.

12.—See abstract in The Journal, xxxv, p. 1425.

13. **Vertigo.**—Thelberg believes that this symptom is brought about either by one or all of the following three causes: 1. Direct reflex irritation of the gastric branches of the pneumogastric nerve, and thence via the lower cervical ganglion to the vasomotors of the vertebral arteries which supply the internal ear. 2. By toxemia from amulon, and other ptomains, nicotin, alcohol, reabsorption of bile, the toxins of the infectious diseases, etc. 3. By direct pressure upon the heart through distension of the stomach by gases resulting principally from so-called amylaceous indigestion and "hyperchylis." While he has not had the good luck to meet with a single case of purely Meniere's disease, he does not doubt that it may occur. His contention is that actual disease of this kind is less frequent than the vertigo from irritation of the centers controlling equilibrium from gastro-intestinal disorders.

15. **Typhoid Fever.**—After describing the cases, the subjects of this article, Berg offers the following conclusions: 1. The existence of typhoid fever does not contraindicate an operation; for typhoid patients bear operation almost as well as do otherwise healthy individuals. 2. The repair of ruptured typhoidal ulcer attended with extravasation should be undertaken as soon after the perforation as the patient can stand the necessary laparotomy and possible eventration. 3. Operation in the preperforative stage is not to be considered, for a local peritonitis does not always signify an impending perforation, nor does perforation always imply extravasation. As we have no means of foretelling which ulcers will perforate, an operation undertaken to forestall such a perforation is like putting out a fire that has not commenced to burn. 4. Ex-

travasation can usually be early diagnosed if strict attention is paid to the recognition of the symptomatology.

16. **Gonorrhea and Marriage.**—The question whether gonorrhea is curable and whether marriage should be advised, is answered by Weiss, who takes the stand that permission to marry should be given only when, after repeated and careful examination of slide specimens, exhaustive bacteriologic and microscopic investigation of the threads and of secretions of the prostate and seminal vesicles, done under the strictest rules and by the aid of Gram's method, the presence of gonococci can not be demonstrated.

17. **Aneurysm Excision.**—Two cases of femoral aneurysm treated by excision are reported by Fowler. One made a good recovery and in the other pulmonary congestion commencing at the end of the second day carried the patient off. He thinks that excision or ablation of the aneurysm will be the operation of choice in cases where the diseased condition of the vessel is fairly circumscribed and there are no inflammatory or other complications. This will include the majority of the cases of aneurysm of the extremities, and aneurysm involving communication with the corresponding vein is a positive indication for the operation.

18. **Prostatic Hypertrophy.**—Hayden thinks that the palliative treatment in cases of prostatic hypertrophy should be tried before operation is attempted, and this treatment consists in keeping the urine at a normally acid reaction, giving rectal injections of hot salt solution, noting the condition of the residual urine, corresponding medication of the bladder and urethra, attention to hemorrhoids, stricture, etc. If after this treatment operation is required, he favors prostatectomy, and does not recommend castration, vasectomy, or ligation of the arteries.

20. **Talma-Morison Operation.**—Jelks reports cases of dropsy involving cirrhosis of the liver, treated by the Talma-Morison operation with success. He thinks every patient suffering from ascites as a result of cirrhosis of the liver should be subjected to this operation.

22. **Meat Ration in the Tropics.**—The varying views that have been uttered in regard to the army ration in the tropics are first noticed, and Egan finds, from the literature and his own observations, that well-to-do individuals in warm countries eat fully as much meat and crave it as much as in temperate climates. He thinks that the abstinence from sufficient amount of proteids is the cause of the prevalence of anemia of the poor classes in the tropics. Something should be said in regard to the difficulties of keeping meat fresh in hot climates, and eating it too soon after killing, which is perhaps responsible for some disease among soldiers.

23. **Bubonic Plague.**—The extent of the plague in Manila is described briefly by Curry. There have been found in that city 225 cases with 167 deaths, which equals a mortality of 74 per cent. The native death-rate was nearly 81 per cent., while that of the Chinese was not over 72 per cent. He is at a loss to account for the higher mortality among the natives. There were but two deaths among Americans, both employed in the same place and probably subject to the same infection. The plague bacillus did not appear in the blood until late in the disease, except in the rapid fulminating type. Blood cultures and agglutination tests are unsatisfactory, therefore, for early diagnosis. The bacilli do occur early in the glands, and the most satisfactory method of diagnosis is aspirating one of the recently swollen glands. The objection to this, that there might be danger of causing general infection by injury to the blood-vessels, is, he thinks, more theoretical than practical. The right femoral and inguinal glands are usually the first to enlarge, and there is the possibility of introduction of the plague through the prevalent dhobie itch, and as most people are right-handed the tendency to scratch on that side may possibly cause this predominence. Almost all cases show evidence of flea and mosquito bites, but Curry does not think it probable that the mosquito plays any great part in the spread of the disease.

26. **Intestinal Vegetations.**—Tunison describes a kind of growth which has passed from the intestines, apparently resembling some vegetable organism, which he suggests is possibly due to the use of fruit, though the case reported continued after complete abstinence from such food. The patient was treated with essence of pepsin, and essence of pancreas in frequent doses, with a complete and permanent cure. In the discussion in the Cincinnati Academy of Medicine, Dr. W. E. Shaw identified these forms with banana fibers. They are not noticed in the fresh fruit as they are there perfectly transparent, but the changes that take place in the bowels make them more visible.

27. **Occupations and Rectal Diseases.**—Monroe found that certain occupations are specially liable to produce rectal trouble, hemorrhoids, etc. Clerks in stores are frequent sufferers from hemorrhoids, which he believes are due to irregular habits of defecation, etc., and railway engineers are subject to the same liabilities from the same conditions, as are also commercial travelers.

29. See abstract in The Journal, xxxv, p. 1048.

30.—Ibid., xxxv, p. 52.

37. **Intestinal Indigestion (Dystrypsia Intestinalis.)**—Various types of this anomaly are enumerated by Hemmeter: 1. Those connected with pathologic anatomical alterations in the structures of the intestinal walls, lymphatics, blood-vessels, and nerves. 2. Absence of deficiency of intestinal digestive secretions, principally of bile and pancreatic juice and also succus entericus. He agrees with Rachford in his main conclusion that a small quantity of free HCl has little or no retarding influence, but that large quantities materially impair the diastatic action of pancreatic juices. The chemical processes in the duodenum are extremely complicated and easily disturbed. Secretion of bile, pancreatic and gastric juice may vary abnormally and throw out of balance the finely adjusted chemical transformations, giving rise to intestinal dyspepsia, which will only be elucidated by future chemical physiologic investigation. Other effects are described, with also the antizymotic influences of the bile secretion and disturbances in the secretion of pancreatic juices, succorrhea pancreatica, hypochylia, and achylia pancreatica, the alkalescence of the pancreatic juice, and the general effects produced by its suppression. 3. Intestinal indigestion due to qualitative and quantitative irregularity of diet which may be too excessive; unhealthfully mixed, the food may be partially fermented or putrefied. He thinks also that not enough attention is given to harm caused by drugs, some of which actually produce the trouble which they are intended to relieve. 4. Intestinal indigestion due to abnormal bacterial activity. 5. That due to abnormal gastric chemistry, and he insists on the importance of analysis of the gastric contents in cases of intestinal dyspepsia. 6. Neurasthenia intestinalis. 7. Intestinal indigestion due to irritants coming from the blood. 8. That due to worms. 9. That due to hyper or hypoperistalsis. The paper ends with a series of formulas used by the author in special symptoms in different forms of this condition.

38. **Cutting or Crushing Urinary Calculi.**—McGuire reviews the opinions of various authors in regard to the preferable operation for vesical calculi, and gives his views as to the advantages and disadvantages of each. He does not condemn the crushing operation, which he believes has its advantages in certain cases, but he thinks the operation is overdone in an attempt to substitute it for cutting operations in cases not suited to it. Lithotomy, he holds, should be the operation most frequently employed, and lithotrity reserved for a few carefully selected cases.

38. **Artificial Abscesses.**—Van Telburg-Hofman suggests the formation of artificial abscesses to relieve certain conditions. He reports cases of apparent general pyemia or septicemia in which this method was performed by the injection of spirits of turpentine under the skin, which seemed to be of decided benefit. He suggests its use in cases of puerperal fever where other methods fail.

40. **Uterine Reflexes.**—A possible danger of operating on the uterus is here suggested, and a case reported where there

seemed to be sudden collapse and heart failure, which Upshur thinks must be referred to reflex action from the uterus. Even the simplest operative procedure on the uterine cavity, he believes, may sometimes unexpectedly have fatal results.

45.—This article has appeared elsewhere. See The Journal of March 16, 93, p. 770.

46.—See abstract in The Journal of January 12, p. 128.

49. **Head-Knocking.**—Having been interested in the statement of Dr. Coolman, of the Children's Hospital of London, that head-knocking is a common symptom in young rhachitics, Aldrich has looked for it in this country, but noticed it only twice. The literature is very silent in regard to it. In one case reported the child was a marked rhachitic with rosary, flattening of the sides of the chest, enlarged epiphyses, dorsal pad and typical facies, and it seemed to delight in knocking its head against the cradle rail. The appearances were those of severe abuse, and he comments on the medicolegal importance of the subject. It should be distinguished from head-nodding and head-rotation usually associated with nystagmus, which is occasionally met with in young rhachitics and described by Romberg and Henoch. The symptom is a curious one; that the child should enjoy such abuse is hardly comprehensible.

53.—See abstract in The Journal of January 26, p. 273.

55. **Procidentia Uteri.**—After noticing the different operations, Emmet says that any method which does not forcibly antevert the uterus and prove capable of holding it there is an insufficient operation. He preferably places the suture on the posterior aspect of the organ just below the crown, to make this anteversion perfect and permanent. Only one other method short of hysterectomy is capable of giving the best results, and that is the one originally suggested by Sänger, of making an incision in the anterior fornix, pushing away the bladder and making the fundus fast to the vaginal wall. Schücking then devised his operation of vagino-fixation by passing a curved needle up the uterine canal through the anterior wall of the uterus and through the vagina, passing a suture and binding the parts together. This necessarily was confined to the lower portion of the wall and therefore insufficient. Mackenrodt carried out the idea better by separating the bladder and uterus extensively and bringing the fundus completely forward and then stitching the anterior aspect of the uterus to the vaginal wall. Kustner and Dührssen went a step further and opened the peritoneal cavity at its junction with the bladder, drawing down the adnexa for inspection. Wertheim and Vineberg drew down the round ligaments and made them fast to the vaginal wall, and Vineberg thinks this an admirable method in cases of prolapse in the first and second degrees, but believes it is contraindicated in complete procidentia where there is veritable hernia of all pelvic organs. Emmet is inclined to try it in such cases, counting much on the subsequent plastic work on the vaginal walls and perineum. Finally, hysterectomy is a last resort, the partial form from above being the better, since the stump of the cervix or vagina may be suspended by being sewed to the shortened broad ligaments.

64.—See abstract in The Journal, xxxv, p. 1050.

65. **Circumcision.**—Mark pleads for the more general practice of this operation, giving his reasons for the views expressed. He thinks that it can be best performed at about 3 years of age; there is rarely occasion for it earlier. He of late has removed a wedge-shaped piece from the frenum, to obliterate the folds which remain after ordinary operation has been performed, and this removes another lurking-place for infectious organisms.

66. **Nasopharyngeal Disorders of the Adult.**—Among those enumerated are oversecretion of the mucus, which may be due to obstruction within the nasal passages and relieved by operation. It may be caused by shrunken adenoid growths. The most hopeless cases are those where general hyperemia of the nasopharynx is the only cause to be detected. Another abnormality mentioned by Dabney is interference with deglutition, which he has found caused by postnasal soft polypi. The acute pain in swallowing may be due to ulceration of the upper surface of the soft palate, generally specific. The characteristic of this is that when at rest the pain is far less than that of tuberculosis or carcinoma. When nasal obstruction develops in the adult it is often due to postnasal polypi and a long train of consequences may follow, such as nausea, etc. Few operations give more brilliant results in the way of complete relief than the removal of one of these. Deafness, tinnitus, occasional pain and over-resonance of the patient's voice are also noted, as well as over-secretion of mucus necessitating frequent clearing of the throat and thus interfering with speech. He describes his method of examination, by using White's palate retractor, which he has found of the greatest service. Having cleansed the nasopharynx, a 5 or 10 per cent solution of cocain is applied to the posterior and upper surfaces of the soft palate, soaked in a little cotton on a probe. After a few minutes the retractor is pushed around the palate and the patient directed to take a deep breath with the lips—not the teeth—closed, and so doing the soft palate is relaxed and brought forward and the retractor may be fixed on the upper lip. The patient should be instructed to breathe naturally as the tongue is depressed. Posterior rhinoscopy will quickly reveal the presence of any growths, hyperemia or ulceration. In a few cases tying the palate forward with a catheter brought through the nose and out through the mouth has been found a more satisfactory method, but the retractor has generally been less uncomfortable and more convenient. Jarvis's snare is the instrument most useful to him in removal of polypi of the posterior nasal soft palate. In adenoid tissue in the adult the indication for its removal is more often over-secretion of mucus and disease of the ears than nasal obstruction, and complete removal is more necessary. The forceps and curette may there be used, but the former is more convenient. For syphilitic ulcer of the soft palate he uses nitrate of silver applied on a mop, 30 to 60 gr. to the ounce-solution, after cleansing.

67. **Dangerous Glassware.**—Hoskins calls attention to the dangers of swallowing fragments of glass from vessels containing food, e. g., preserve jars, etc. For a remedy he suggests the use of annealed-edge glassware, and suggests inspection for nicks, etc., in every case where these utensils are used.

74. **Exophthalmic Goiter.**—Haight believes that exophthalmic goiter is due to hyperthyroidization and measures instituted to reduce the goiter reduce the secretion and benefit the condition. His attention was called to the collodion treatment, several years ago, in treating a case of Hodgkin's disease. It acts as a sort of compressor, reducing size and secretory function and shutting off the blood-supply. He has employed it in six cases with enlargement of the thyroid, one of which he reports. The collodion must be perfectly fresh. Rapid evaporation can be secured by using 20 to 30 pounds of air-pressure and increasing the compression fully one-third. The patient's head should be put in an easy position, with relaxed muscles, and collodion be repeatedly applied to keep up the pressure at intervals of from two to five days.

77. **Interstitial Gingivitis.**—Talbot holds that, aside from local causes, intestinal gingivitis may be due to auto-intoxication or blood poisoning. The former occurs during pregnancy and in change of climate, as is shown by American soldiers in the tropics and engineers and workmen in the Jungfrau Railway, 2600 meters above the sea-level. The poison due to autointoxication of drugs circulates in the capillaries, setting up inflammation. This extends through the alveolar process and gums. Pus infection frequently takes place and pus passing into the stomach produces indigestion. Treatment consists in the patient taking eight or more glasses of pure water each day, using a stiff tooth-brush three times a day and the employment of proper mouth-washes. Tincture of iodin should be locally employed every other day, until the parts are restored to health.

79. **New Type of Continued Fever.**—Happel describes a type of fever met with in the South, which can not be placed either in the malaria, typhoid, or typhomalarial group. It may occur at any time of the year, is most common in late

summer, early fall or winter, and is rare in the spring. It may commence with a chill followed by a high temperature, subsiding to about 102 to 104, rising two or three times in twenty-four hours and finally becoming intermittent. At this time there may be profuse sweats, no delirium in any case and the dull listless look of typhoid is wanting as well as the anorexia. The tongue may have an almost normal appearance. There is no tendency to diarrhea; purgatives are often required. There is no abdominal tenderness, frequently an inverse ratio between the pulse and temperature, but as a rule the pulse is not far from normal. In cases where the rapid pulse is found with low temperature, the experienced practitioner feels that he needs to watch the case. In a few cases there is subnormal pulse and temperature, and these are apt to be lingering ones. The facial appearance is entirely different from typhoid, the digestion is only slightly impaired, and there are no special symptoms on the part of the liver and the spleen and negative symptoms in the respiratory system. One attack does not prevent another, but rather predisposes. Quinin only affects the cases unfavorably; most have a tendency to get well. The diazo reaction and the Widal test have failed. Happel concludes his article with a protest against too much dependence on laboratory methods at the expense of clinical study.

80.—See abstract in The Journal of January 12, p. 128.

81.—Ibid.

82.—Ibid.

91. **Normal Salt Solution in Typhoid.**—The uses of hydrotherapy in private practice are not so great as in hospitals, unless a skilled nurse is at hand, but it appears to Pfromm that if the kidneys are properly stimulated to get rid of the toxins much good may be done. He has, therefore, resorted to the use of normal salt solution by rectal injection, beginning early in the disease and as soon as the urine has become diminished, using 1 pint per rectum per day until the quantity of the urine is normal. He reports a case and emphasizes the following points: Beginning of treatment early and examination of urine daily, since it may become highly alkaline and produce inflammation or irritation, and the stimulation of the cardiovascular system and the diminished tendency to complications.

92. **Heroin.**—Stewart has used heroin in various conditions, and notes that alkalines and alkaline mixtures will precipitate heroin from solution, which should be remembered. If given during or immediately after meals, the free hydrochloric acid in the stomach will cause it to be more rapidly converted and assimilated. The doses, he thinks, have often been too large: 1/24 to 1/12 gr. for adults is usually sufficient and 1/250 to 1/50 for children under 5 years of age. Its results in neuralgia and muscular rheumatism have been negative, and in whooping-cough it seems to relieve the paroxysm, but does not affect the duration of the disease. He thinks the drug slows respiration, and makes it stronger and deeper, steadies and strengthens the heart-action, is sedative and slightly anodyne; it is not cumulative, does not tend to produce habit, is not a hypnotic, lessens night sweats and is antispasmodic to a considerable degree. It should not be put in the hands of patients as it is liable to be over used.

96. **Common Anomalies of the Colon.**—Those common anomalies of the colon, described by Babcock, are dilatation of the omega loop and descending colon, elongation and displacement of the sigmoid flexure, the sigmoid loop touching the lower border of the left kidney, exaggerated and displaced sigmoid, V-shaped course of the transverse colon in different degrees and otherwise anomalous course of the same.

108. **Syphilis.**—Nine questions were asked of a number of prominent surgeons: 1, as to the frequency of syphilis—this, according to different observers, varies from 10 per cent (Lydston, Mathews and others) to 1/15 of 1 per cent. (Guitèras); 2, as regards specific treatment prior to secondary symptoms, the majority favor it, though some object; 3, as to the method of treatment of a local sore, in which excision is usually rejected and cleanliness with mild applications are advised; 4, the curability of syphilis, which is generally accepted, some considering it curable in 90 to 95 per cent.—one or two hold that it is always doubtful; 5, advice as regards marriage—the majority consider marriage permissible after a sufficient period of time and thorough treatment; 6, the immunity given by one attack, which is recognized generally as the rule; 7, the danger of transmission of syphilis to offspring by parents who have been properly treated—this is not considered a special danger by the majority, though some hold that it may occur; 8, whether inherited syphilis renders immune from primary disease, the replies varying, some answering positively in the affirmative, and others, equally so in the negative, while still others are doubtful; 9, the plan of treatment, of which the majority prefer mercurial medication first and the iodids in the later manifestations. Hot baths and electric treatment are insisted on by some of the respondents.

118. **Congenital Shoulder Dislocations.**—The causes and description of symptoms of this deformity are enumerated. The conclusions drawn by Marston are in substance as follows: 1. It is of the utmost importance to distinguish between dislocation and true obstetrical paralysis. 2. The treatment of the former is immediate reduction by manipulation, if possible, otherwise by operation. 3. Every infant should be carefully examined at birth, for then reduction is most easy. 4. From the fact that, in three of Dr. Phelps's cases, fracture of the glenoid cavity was found and in nearly all the history showed difficult labor, the author is led to believe that these cases are not of paralytic origin, but are due to traction of the axilla by the finger or vectis. Paralysis may be coincident but not a primary factor. 5. The prognosis of the operative treatment is excellent; the earlier the operation, the more hopeful. 6. Like congenital dislocation of the hip, these cases are little benefited by mechanical treatment.

122. **Salophen.**—From a study of the literature and personal experience, Hill is convinced of the intrinsic value of salophen in properly selected cases, viz., in those neuralgic and inflammatory states due to rheumatic poisoning. It is specially effective and preferable in young and weakly patients. The combination in a single definite chemical product of a safe and efficient antipyretic, antineuralgic and antirheumatic makes salophen of special service in many obscure painful states that can be diagnosed with certainty only by therapeutic tests.

131. **Local Anesthesia.**—Several cases of the use of eucain and cocain in local anesthesia are described by Terrett, who concludes his paper with the following summary: 1. Cocain and eucain are undeniably the most potent, efficacious and reliable local anesthetics now in general use. 2. The agents in a menstruum of simple sterile water at ordinary temperature, and when freshly prepared, give entire satisfaction, and, when injected in the proper manner, can be made to engender the most profound and complete anesthesia. 3. Cocain and eucain must infallibly supplant a general anesthetic. whenever this latter is contraindicated by some organic lesion, whereby its use would be a menace and directly endanger the patient's life. 4. The combined infiltration and regional method is of unquestionable value, and its practical usefulness confined especially to those parts where the nerve distribution is easily accessible—notably the extremities and ribs. 5. The entire absence of any untoward or unfavorable symptom, as a result of this procedure, argues most forcibly and cogently for its ulterior recognition and more general use.

132. **Mitral Stenosis.**—The various theories of hypertrophy of the left ventricle occurring in stenosis of the mitral valves are mentioned by Noto, who offers one of his own. He rejects those of the precedent mitral insufficiency, or the co-existence of aortic stenosis and the theory of Struempell that hypertrophy is the result of compensation due to hypertrophy of the left auricle and right ventricle. His own theory is as follows: When stenosis of the mitrals is beginning, the left ventricle must react in its contractions as well in force as in number, and therefore becomes hypertrophied. This is apt to occur in the first period of the disease in every case of mitral stenosis, but as this is a chronic affection it may last for years when complications do not interfere, and after a certain period the blood given to the left ventricle is not sufficient to nourish it for the

important work. There is a period of regression, and from hypertrophy there must come atrophy. Between the two extremes there is a condition when the ventricle is nearly at its normal size, hence we have in these cases the normal left ventricle not absolutely physiologic. This agrees with Erb's view as to general dystrophies, that hypertrophy constitutes the first period of the alteration and atrophy the later stage.

FOREIGN.

British Medical Journal, March 16.

Causation of Carcinomatous and other New Growths. J. George Adami.—The author's arguments are summarized as follows: "1. The catabolic activities of the cell are of two orders: those determining the relationship of the cell with the exterior, and those that are vegetative determining the continued existence and multiplication of the cell; the former excited by stimuli of various orders from without, the latter only indirectly so excited, being more directly called into play by conditions obtaining within the cell. 2. The controlling agency in at least the higher catabolic activities of the cell, both 'functional' and 'vegetative,' is the nucleus, and nuclear activity is accompanied by breaking down and discharge, or by rearrangement of the nuclear molecules. 3. The changes which occur in the nucleus during the active performance of the specific functions of the cell are of a character so different from those observed during the process of cell division that proliferation and active performance of specific function, the one precluding the other, are obviously to a large extent incompatible. The cell engaged in the active performance of function in response to external stimulation cannot simultaneously proliferate. 4. It follows, therefore, that active cell division, and cell proliferation occur only in conditions in which the cell cannot fully utilize the assimilated material (and the energy stored up in the assimilation of that material) in the performance of its specific functions. 5. Such conditions are to be met with where the tensions acting on the cell are reduced and certain energies which before were necessary to counteract opposing forces are freed and become thus capable of diversion from their purpose, or again, where stimulation from without results in increased assimilation and storage of nuclear and cell material which now from any condition can not be utilized in the performance of specific function. 6. In either case the cells will continue to proliferate so long as the primary modification of physical relationships or the primary stimulus continues to act, so long as there is adequate nutriment and so long as the tension exerted upon the cells do not become excessive. 7. Provided that these conditions are observed, the greater the amount of cell proliferation, the greater the tendency for certain at least of the newly formed cells to be projected from the relations proper to cells of the tissue giving them origin, the less will be the opportunity for such cells to carry on their primordial function; the greater the liability to proliferation. 8. The longer the cells are diverted from their proper extrinsic functions to proliferative activity, the greater the momentum acquired by them to continue performing the proliferative act until the functional activities become largely suspended and the 'habit of growth' is set up. 9. When this habit of growth is inaugurated, the cells continue to grow and multiply in the complete absence of those conditions which initiated their proliferation in the first place, and we obtain that purposeless functionless cell growth characteristic of the true tumor. 10. According to the stage of cell development in which this habit becomes impressed upon the cell, so do we have various grades of benign and malignant tumor-formation." From these points he deduces the following conclusions: "Whatever the origin, therefore, of the tumor proper, however it is started, what makes the tumor is the assumption by the primary cells of that tumor of the habit of growth in place of the habit of work, and according to the extent of this replacement, so do we get the various grades of tumor formation from the most benign to the most malignant." The application of this theory to the possible microbic origin of malignant tumors is the subject of some remarks. It applies itself to such an origin in the following way: According to the theory, microbes and their products may be one of the causes originally localizing cell proliferation in the first place, provided that they bring about stimulation rather than irritation, or such mild irritation that the cells are stimulated to increase the metabolism, which does not go on to exhaustion and breaking down of their protoplasm, and provided also that the microbes and their products act sufficiently long to set up the habit of growth. It is quite conceivable that such microbes might continue to exist in tumors they originated, exerting a cumulative effect. The more the cells departed from the type the greater the effect of these microbes and their products in producing rapid proliferation and malignant tissue. This continuance in persistence of microbic action, however, is not to be regarded as essential, and the fact that we doubt as to whether the bodies found in the tumors are real parasites and the failure of their reproduction of similar growths, point to the view that if microbes originate malignant tumors they do not necessarily continue in them in the living state. It is quite possible that certain specific forms of microbic growth originate certain forms of tumor growth and, like other pathogenic microbes, they may tend to attack such tissues under special conditions. If it be proven that malignant growths are specially common in certain localities, then such microbic origin becomes eminently probable. Adami does not see any immediate prospect of arresting the development of existing carcinoma by the discovery of the microbe. The most that we can expect is discovery and employment of means to arrest or destroy the continuous local cells that have taken on this functionless growth and, on the other hand, to study the habits of the germs outside of the body to exterminate them, as we are talking of doing with mosquitoes in malarial regions. The greatest benefit to the patient and the greatest triumph will be, for some years to come, the successful recognition and removal of malignant tumors at the earliest possible date, and of benign tumors before they take on the malignant growth.

Occurrence of Pyrexia in Carcinoma and Other Diseases of the Liver, and in Cases of Gallstone. C. O. Hawthorne.—The difficulties of the recognition of carcinomatous growths from other conditions of the liver are discussed by Hawthorne, at some length, and he concludes that the combination of jaundice and intermittent and hepatic enlargement may need careful consideration before deciding for gall-stones on the one hand or malignant disease on the other. In abscess of the liver various febrile symptoms are to be expected, but are not always present. Similar febrile attacks with jaundice and pain have been observed in other diseases than carcinoma, gall-stones, and abscess, and it seems also that cirrhosis of the liver, even of the atrophic or multilobular type, may cause considerable and indefinitely prolonged pyrexia in some way unexplained.

Digestion Leucocytosis in Carcinoma of the Stomach. Carstairs Douglas.—The author has investigated the leucocyte count in connection with the diagnosis of carcinoma, and finds that digestion leucocytosis is a very poor criterion to rely on in the diagnosis of the gastric affection, since it is only positive in about 54 per cent. The latest monograph on the disease by Osler and Macrae, agrees with his results in finding that reliance can not be placed on this method. It seems probable, he thinks, that the true statement of the case is as Marchetti recently put it, that digestion leucocytosis essentially depends on the digestive and absorptive powers of the stomach, and that it may or may not occur in carcinoma of that organ according to the degree of impairment of its function. He considers the presence of the phenomenon of more value in excluding carcinoma than its absence in proving its existence.

The Lancet, March 16.

Treatment of Tubercular Peritonitis. I. Burney Yeo.—Three cases of tuberculous peritonitis are reported by Yeo, all in the acute form and in young persons, where the principal treatment consisted in rubbing in of iodin ointment in the abdominal surfaces, and the administration by the mouth of pills of iodoform and creosote. The success was remarkable, but he thinks that the same treatment might fail in chronic cases of the dry adhesive type and in older persons. His idea as to the action of iodoform is that it probably enters the blood and, if regularly applied, is eliminated in the secretions; including in the secretions the serous cavities, and as these do not pass out of the body as the secretions of the kidney, they must in time become charged with iodin compounds and act as an antitoxin to tubercle toxins or a bactericide to the bacillus. We have proof of the rapidity with which iodin is absorbed by the skin, by the quickness with which it appears in the urine. The idea of iodin being an antitoxin to tubercle is not a new one, and he mentions two Italian physicians who have reported cases of tubercular peritonitis cured by the injection of a solution of iodin, and a case of tubercular meningitis reported by Nilsson, cured by rubbing iodin ointment, strength 1 in 10, on the shaved scalp three or four times a day. He suggests, in conclusion, that we should bear in mind that antitoxins are not limited to animal products, and should not neglect the study of those which may be found in the mineral and vegetable world. They are not all serums or animal extracts. The oldest and surest ones we possess are mercury and quinin, and their effects are better known, and more certain and reliable than any at present known to us.

Annales de Gyn. et D'Obstetrique (Paris), January.

Connection Between the Mental and Functional Development of the American Girl. G. J. Engelmann.—The essential factors that influence the establishment of puberty are nervous stimuli and mental development, according to Engelmann. He has collected records of the age at the first menstruation in 12,000 cases. His statistics are gathered from all parts of the United States, but his own observations were made mostly in the Southwest, those in New York by Emmet and in Boston by Chadwick, supplemented by data published by the Association of Collegiate Alumnæ and others. Nervous stimuli and mental activity are more intense in proportion to age, at least, in America, and consequently the first menstruation occurs earlier in American girls and earliest of all among college girls. The average age at the time of the first menstruation in this class is 13.52 years (2060 cases); in students in normal schools, 13.8 years (1342); in clerks 14 years (800); in the better classes, 14.23 years (3027); and in working girls, 14.27 years (4818). The figures for England show a higher age in each class, although the difference is slight; but in Germany the average for working girls is 16.8 years; for the middle classes, 15.5 years, and for the better classes 14.1 years, according to Krieger's statistics. In France, De Boismont found the average for the laboring classes 14.84 years; for the middle classes, 14.5 years, and for the better classes, 13.6 years. The average in Denmark and Russia approximates that of Germany for the laboring class, but in the better classes the average was 14.25 and 14.5 years respectively, in 6371 cases collected.

Blood Letting in Nurslings. M. Delestre.—Bacteriologic study of the blood of moribund nurslings revealed the streptococcus in 8 of the 22 positive tests on the 32 infants, and the staphylococcus and the colon bacillus each 5 times. Nineteen of the children weighed less than 2000 gm., and in these he found the streptococcus in 6 and the colon bacillus in 5. He was impressed with the fact that the withdrawing of the blood—2 c.c.—for the test was followed by a marked improvement in each case, and this experience suggested that venesection combined with infusion of salt solution might be useful in severe cases of infection in nurslings. He now reports that these premises have proved correct and that he has witnessed actual resurrections from this measure in these severe septicemias, especially in prematurely-born children, weighing from 1800 to 2000 gm. He draws 2 or 3 c.c. at a time, or even as much as 15 to 20 c.c., immediately substituting 20 to 30 c.c. of artificial serum. The effect is evidently a stimulating of the blood and lymph-forming organs, and the insufficiency of these organs is probably the reason why infections become generalized in these little beings with such facility. He remarks that his success with this lavage of the blood during the last year, at the Enfants-Assistés hospital, has been "veritably astonishing." Relative improvement was invariably attained even in the patients who succumbed later.

February.

Wedge Excision for Displacements of the Uterus. Mauclaire.—Certain forms of displacement are best treated by a longitudinal, superficial wedge-shaped excision of the uterine tissue, tapering to a point above and below, the excised portion resembling a natural segment of an orange. The organ thus operated on, front and back, takes and maintains its normal position, although supplementary measures may be necessary as indicated by the adjoining ligaments, etc.

Annales des Mal. de l'Oreille, Etc. (Paris), January.

Chromic Acid for Malignant Tumors of the Upper Air-Passages. H. du Fougeray.—Cauterizing with a .5 per cent. solution of chromic acid, at first every other day, has proved a valuable measure in Fougeray's experience with epitheliomata in the pharynx. He reports three cases thus treated. In one observed two years ago, the fungus growth in the pharynx appeared three years after excision of a malignant tumor of the breast. He first curetted and then cauterized with the chromic acid. Three months later not a trace of the epithelioma was left and the patient has since been in good health.

Fibrosarcoma in the Sphenoidal Sinus. G. Ferreri.—If pus be found in the narrow summit of the nasal fossa and the roof of the nasopharynx, if a projecting tumor be visible and if the probe introduced through the middle turbinate bone reach the bone to a depth of 8 cm. from the nose, there is reason to assume a lesion in the sphenoidal sinus. Sphenoidal sinusitis should be diagnosed and operated on as promptly as possible to forestall intracranial complications, which are inevitably fatal. In a case described, this fatal termination was postponed for 1½ years by the extirpation of the tumor, which has been gradually developing for three years.

Treatment of Chronic Otorrhea Through the Eustachian Tube. P. J. Mink.—The prolongation of the axis of the Eustachian tube passes along the entire length of the upper portion of the tympanum and antrum, without obstruction. Mink calls attention also to the fact that a strong current of air introduced into the antrum along this route, dislodges pathologic products more successfully than is accomplished by fluid and that it penetrates to the remotest crevices. The products can then be further loosened and sterilized with peroxid of hydrogen. In case the ulceration has not invaded the bone, astringent and modifying treatment is sufficient, but if the bone is involved, acid is necessary to dissolve the necrosed particles. As long as any remain, hyperemia persists in the adjoining parts and all attempts to suppress the inflammation fail. Trichloracetic acid is especially useful for this purpose on account of its solvent action on lime salts.

February.

Nail in Bronchus. J. Garel.—A nail more than two inches long remained in the right bronchus of a young child for two months, without causing very serious disturbance. The parents suspected its presence and had a radiogram taken and sent to Garel. He diagnosed the case without seeing the patient, and when the latter arrived, easily extracted the foreign body with a magnet.

Annales des Mal. des Org. Gen.-Urin. (Paris), January.

Operative Cure of Renal Tuberculosis. P. Delbet.—The case described has been watched with interest as it was first reported as having been cured by nephrotomy alone. The patient was a man of 62 and at the operation five liters of fluid were evacuated and 300 c.c. of debris removed by curettage. The patient was apparently cured except for a small fistula, but fifteen months later symptoms recurred, necessitating nephrectomy from which he recovered in a month, and now, a year later, is apparently in perfect health.

Bulletin de l'Academie de Med. (Paris), March 5.

Chaulmoogra Oil in Leprosy.—Hallopeau remarked in regard to the alleged complete cure of a case of leprosy by chaulmoogra oil, reported by Tourtoulis-Bey, that the oil as received in the West is frequently adulterated with butter, fat and linseed, castor, sesame and cocoanut oils. Consequently control tests are not reliable. In the case reported the patient was injected with 5 gm. of the oil, under the skin of the arm or leg, about twenty times a month for five years, with occasional suspension. He has thus received 2720 gm. of sterilized oil. The injections were not particularly painful and the swelling at the spot always vanished within twenty-four hours. In his personal experience Hallopeau has witnessed a number of cases so improved by the oil, administered by the mouth, that they are practically cured. One of Besnier's patients, whose case was so typical that a cast of the lesions is preserved in the Saint-Louis museum, is now improved to such an extent that he has resumed his usual life, and no one would suspect that he had had leprosy. Another severe case was exhibited at the International Medical Congress, in which the cure has seemed permanent during the eighteen months since the chaulmoogra oil was administered in large doses. Even when the disease continues under this treatment it assumes a much milder form. Hallopeau is now experimenting with its administration by the rectum emulsified with milk. Du Castel's experience with four patients has been less favorable. He stated that the subcutaneous injection of 5 gm. is a painful procedure and in sensitive patients may entail inflammatory infiltration. In one case the injection induced fat-embolism of the lungs and in another a tendency to syncope. The tuberculo-ulcerative forms appear as a rule to react more favorably to this treatment than the nervous variety.

Medication to Reduce Arterial Pressure. HUCHARD.—Vaso-dilating, pressure-reducing medication is extremely important, not only in diseases of the heart and vascular system, but in other morbid conditions in which high arterial pressure is a menace. Among these are the premonitory stage of arteriosclerosis or "presclerosis," in which the high arterial pressure is the cause and not always the effect of the sclerosis; in confirmed arteriosclerosis; in coronary angina pectoris and in pain in the heart from distension of the organ owing to peripheral vaso-constriction; in uricemia, as uric acid has a peripheral vaso-constricting action which explains the frequency of visceral congestions; in gout, which is to the arteries what rheumatism is to the heart; in tobacco intoxication, which entails vaso-constriction and consecutive arterial hypertension; in interstitial nephritis, one of the affections which increase the arterial tension to the highest point, whence the frequency of rupture of the blood-vessels and cerebral hemorrhages occur; in local syncope of the extremities; in Stokes-Adams' disease; in aneurysm and finally in the condition resulting from an excessive meat diet. The latter is one of the most frequent causes of arteriosclerosis and arterial cardiopathy. Owing to its richness in vaso-constricting toxins, the alimentary regime of our day is a constant or repeated alimentary poisoning. This is not the end of the list but it is enough to show the numerous indications and applications of "hypotensive" medication. In these important heart affections, superposed on an arterial cardiopathy, which commence with an intoxication and lead to an almost permanent condition of vasoconstriction, treatment should not be addressed to the central heart which is already more or less affected in its contractile power, but to the entire arterial system. Contraction of the arteries should be prevented in order to relieve and facilitate the work of the heart. Arterial hypertension is a direct menace in case of an aneurysm, as it hinders coagulation. The suprarenal capsules secrete a substance that has a marked vaso-constricting action. Huchard has witnessed a sudden increase in the size of an aneurysm, with threatened rupture, in a patient who had been taking suprarenal extract for two weeks. In treating an aneurysm the coagulation of the blood is not the only aim, the sac itself should be influenced and the distention, which is maintained by arterial hypertension should be reduced by appropriate measures, including a milk-vegetable diet and vaso-dilating and pressure-reducing medication. When the case requires the immediate lowering of the arterial tension, as in angina pectoris, this can be accomplished by the inhalation of amyl nitrite. Propyl and butyl nitrites possess the same properties but have not yet been sufficiently tested. Sweet spirits of niter deserve more general use as a vaso-dilating and diuretic measure. Potassium nitrate has also a vaso-dilating and pressure-reducing action, besides a diuretic effect. It probably becomes transformed into a nitrite in the organism and almost all the nitrites are diuretics as they substitute vaso-dilation for constriction, which is the dominant mechanism of diuretic medication. Glycerin trinitrate has a similar action, but its effect is less prompt, and lasts one and a half hours, and it diminishes rapidly after the maximum is past. It causes severe headache in certain patients. These inconveniences are obviated with tetranitrate of erythrol or tetranitrol, which maintains the arterial pressure nearly at the physiologic point without intermission. Huchard's experience with it during the last four years fully confirms the recommendations by Lauder Brunton and other writers. The effect is felt in fifteen to thirty minutes and continues for three to five hours in most cases, although occasionally it subsides in one and a half to two hours. Huchard prescribes one to three, or six to eight, 1 cg. tablets during the twenty-four hours, beginning with three or four drops of a 1 per cent. alcohol solution of trinitrin in urgent cases. He has administered it to 120 patients and found symptoms of intolerance extremely rare, even the frontal headache noted with glycerin trinitrate. The hexanitrate of mannitol, he adds, is another member of this group that will repay study.

Bulletin de la Soc. de Pharmacie de Bordeaux, February.

Improved Starch Paper for the Iodin Test. G. DENNIGÉS.—Iodin is being used more and more as a test of the functional and metabolic processes going on in the organism. For instance, the absorbing power of the stomach is determined by ingestion—fasting—of 10 cg. of potassium iodid in a gelatin capsule. The saliva gives the iodin reaction in ten minutes under normal conditions. A number of German writers recently called attention to the value of iodipin as a test of the motility of the stomach, etc. This substance is a stable combination of oil of sesame and iodin. It is not affected by the buccal or gastric secretions, but is decomposed in the small intestine in the presence of bile. Fifteen minutes after eating a roll and drinking a cup of tea, 3.5 gm. of a 10 per cent. solution of iodipin are ingested in a little water. The appearance of the iodin in the saliva indicates the moment when the chyme is passing out of the stomach. This occurs in fifteen minutes under normal conditions. In icterus from retention, if no bile reaches the intestines, the iodin reaction does not occur at all, and it is much delayed in case of stenosis of the pylorus, atony of the stomach, etc. The permeability of the kidneys can also be determined by the iodin reaction in the urine during the twenty-four hours after subcutaneous injection of 4 cg. of potassium iodid. Still another means of utilizing the iodin reaction for diagnostic purposes is to examine the cerebrospinal fluid by lumbar puncture after ingestion of 4 gm. of potassium iodid by the mouth, in case of suspected meningitis. If the meninges are normal, the iodin does not pass through them. The ordinary starch paper used in the tests rapidly deteriorates, and may lead to erroneous deductions when not perfectly fresh. Denniges makes a paper which keeps indefinitely, with no precautions, while it is so sensitive that it reveals the presence of even .001 mg. in a single drop of the solution. One gm. of starch is dissolved in 10 c.c. of cold distilled water and 40 c.c. of boiling water added. The mixture is then boiled for a minute or two, stirring constantly. When cooled, .5 gm. of sodium nitrite is stirred in and writing paper is painted with this mixture on both sides, drying each side separately. A strip of this paper, 1 cm. wide, is moistened with the fluid to be tested and held at an angle, the moistened side up. One drop of a 10 per cent. solution of sulphuric acid is then deposited at the top of the paper with a glass rod, and as the drop works its way down, the characteristic coloration appears.

Presse Medicale (Paris), February 27.

Generalized Pneumococcus Peritonitis in Children. F. BRUN.—Benign, encysted pneumococcus peritonitis is speedily cured by spontaneous or operative evacuation of the pus pocket, which is usually located near the umbilicus. Besides this benign variety Brun has had occasion to observe six cases in which the disease assumed a septic, generalized form, rapidly fatal. At the autopsy pseudomembranes were found numerous in the abdomen and elsewhere, with greenish pus on the posterior surface of the stomach and spleen; the mesentery was dotted with ganglia. There was no trace of pneumonia. The pneumococcus was found pure in the pus. Two of the patients were girls about 5 years of age, another was a boy of 10; all were healthy children. One was operated on the second day of the disease, which was diagnosed peritonitis from appendicitis. In another, the disease commenced with pain, fever, headache, and white patches on the tonsils. These symptoms improved by the end of five days, but merely to be substituted by pain and tympanites, vomiting, imperceptible pulse, oppression, dark rings around the eyes and dull gaze. The abdomen was opened as for appendicitis and pus escaped, which was not traceable to the appendix. All the loops of intestine were scattered with pseudomembranes. Each patient died in three to seven hours after the operation.

March 2.

The Antituberculosis Dispensary at Liege. E. Malvoz.—A model tuberculosis dispensary has been constructed at Liége, by the efforts of a society composed of all classes of people. The work has been in progress for more than a year and the results have been unexpectedly gratifying. The dispensary is open three days a week. Three physicians examine the applicants, and another makes the bacteriologic tests. The physicians do not treat the patients—they merely examine them from time to time and keep a detailed record of each case. An official is connected with the dispensary, an ex-working man, whose duty is to learn the circumstances of the patients, their occupation and all the details of their surroundings at home and at work, winning the confidence of the patients and their families, and educating them in hygienic measures. They are supplied with bedding, etc., as needed, and two quarts of Pasteurized milk a day. Arrangements have been made with farmers to board some of the most promising patients, and philanthropists have become interested in certain patients and assumed this expense for them, about sixty cents a day for each one. The tuberculous poor have learned to appreciate the work of the society and respond faithfully to its efforts, knowing that disregard of the prophylactic measures recommended means the withdrawal of the milk and other assistance. The work is carried on in a spirit of mutual helpfulness, with scrupulous avoidance of red tape. The society has now a hundred cases in its charge and has spent about $600 for reclining chairs, bedding, etc. When surroundings are hopelessly unsanitary, a healthy home is found for the family at the same price, in an out-lying part of town, and is offered them rent free for the first two or three months, which usually proves a sufficient inducement to move, the society paying the deficit in the rent. Branch societies have recently been organized in the two nearest large towns, principally by the efforts of physicians, and the province is now erecting the first public sanitarium in Belgium, which will accommodate 500 inmates.

Therapeutic Indications for Kefir. L. Hallion.—In Russia a course of kefir is considered extremely beneficial for the treatment of pulmonary phthisis, as it affords a nourishing article of food, digested and assimilated with extreme ease, and even a specific action on the disease is ascribed to it. In other affections it will be found useful whenever a milk diet is indicated, substituting, or combined with the milk. It is particularly valuable in case of defective digestion, in biliary and renal lithiasis, in chronic rheumatism and affections retarding nutrition, anemia, chlorosis, convalescence from acute diseases, etc. Hallion considers it contraindicated in heart disease, stasis of the portal system, rhachitis and obesity. Besides possessing the physiologic properties of milk, with superior digestibility, it also contains micro-organisms and diastases to counteract bacteria and pathogenic toxins. The therapeutic indications have been established on this basis, and have been confirmed by experience.

March 9.

Improved Nitric Acid Test for Albuminuria. Ehrmann.—The conical graduated glass has a tube held over it by a standard. The tube is shaped like a long narrow funnel and just touches the bottom of the glass. The nitric acid is poured into this tube without interruption to the flow, thus avoiding air bubbles. As the acid emerges at the bottom the reaction of the albumin is much more even and regular than by any other means and the amount of the precipitate, when all has been deposited, affords a quantitative measure of the albumin, each division representing 5 cg. of albumin to the liter of urine. The standard is arranged to suspend a large funnel tube over a conical glass holding 50 c.c. on one side and, on the other, a small tube over a glass holding but 10 c.c., to correspond to a small or large amount of urine at one's disposal. The entire test requires absolute stillness. The tubes and glasses must be kept perfectly still after the acid has been poured in; the slightest touch impairs the accuracy of the reaction, even the removal of the pipette in the usual method of using the nitric acid test. The glasses were graduated by observing the depth of the precipitate that corresponded to a certain weight of albumin representing 5 cg. to the liter of urine, and fractioned in proportion.

Revue de Chirurgie (Paris), March.

Unilateral Exclusion in Case of Rebellious Fistula of the Intestine. X. Delore and M. Patel.—Two cases are described. The first was a pyostercoral fistula in the right iliac fossa consecutive to tubercular appendicitis. Except for cervical adenitis in childhood, the patient, a woman of 40, had been healthy until six months before when vague pain was experienced in the right iliac fossa, with occasional vomiting. After four months a large abscess spontaneously opened in the region, with four orifices. These fistulæ evacuated pus and fecal matter and the patient became cachectic. The cecum was found free, but the appendix was adherent to a number of loops of the small intestine. The latter was severed about a yard above the appendix and the distal end closed and replaced in the abdominal cavity. The proximal stump was implanted in the ascending colon. This unilateral exclusion did not arrest the cachexia which continued to a fatal termination four weeks later. The autopsy showed the anastomosis perfect, and the peritoneum sound, but the appendix was in a purulent focus. It was partially destroyed and one of the loops of the small intestine had several perforations communicating with the abscess cavity. In the second case the stercoral fistula was caused by a tubercular affection of the ileum and appendix. The cecum and lower portion of the ascending colon were severed from the small intestine and the distal stump closed. The lower segment of the ileum was inserted in the small intestine and the patient made an uneventful recovery with gradual disappearance of the fistula. These cases are typical of what may be anticipated in operations of this nature on the small or on the large intestine. When the small intestine is involved no better results are obtained than with entero-anastomosis, that is, fecal matters accumulate in the lower portion and the fistula persists. But the results are positive and frequently cure, when the operation is on the large intestine. If the fistula involve the cecum, the ileum should be implanted in the sigmoid flexure. But if located at the terminal portion of the intestine without involvement of the cecum, it can be implanted in the ascending colon. The circulation of fecal matters is definitely suppressed, the same as with bilateral exclusion. A purulent fistula has less reason for continuing than in the latter case, and the chances of infection from propagation are less. Unilateral exclusion may even be employed in case of a non-fistulous tubercular affection of the cecum, not only as a cure but as a preventive of a stercoral fistula. The disadvantages of the small intestine for unilateral exclusion are the greater amount of peristalsis liable to induce retrograde movement of the feces, the more copious secretions and consequently the greater fluidity of the intestinal contents.

Semaine Medicale (Paris), March 6.

Severe Vomiting in Pregnancy. Ch. Achard.—Between the simple and the uncontrollable vomiting of pregnancy there is a third, intermediate class in which the vomiting is severe, frequent and distressing, but not absolutely uncontrollable. In a case described, the vomiting appeared at the third month, accompanied by symptoms of hyperchlorhydria, and was relieved as the latter yielded to treatment with alkalies: a teaspoonful of equal parts of sodium bicarbonate and magnesia whenever the pains appeared, and a strict milk diet. In two other cases this treatment proved ineffectual and was suspended, but the vomiting was cured by lavage of the stomach. At first the lavage increased the vomiting spasms, but as it continued the stomach quieted down, and after a daily repetition for a few times, the vomiting was completely arrested. these patients had a tendency to hysteria and neuropathy, and Achard suggests that hysteria may be a prominent factor in the vomiting of pregnancy. Other factors may be an excessive excitability on the part of the vomiting center, and some special excitation capable of affecting this center by the reflex route. The starting point of his causal excitation varies with the case and is by no means restricted to the uterus and adjacent organs. The stomach is particularly liable to be its seat.

Berliner Klin. Wochenschrift, February 18 and 25.

Serum Test for Differentiation of Human and Animal Blood. A. WASSERMANN AND A. SCHUETZE.—These scientists and Uhlenhuth conducted, independently, simultaneous researches in this line and reached the same conclusions. Their announcements were published in two of our Berlin exchanges with only a day's interval between them. Uhlenhuth's discovery was mentioned editorially in THE JOURNAL of March 9, p. 673, and this communication from Wassermann more emphatically confirms the value of the new test. The rabbits were prepared by subcutaneous injection of 10 c.c. of human blood serum, free from cells, repeated every other day for five or six times. The animals bore the injections well, and, six days after the last, they were bled to death from an incision in the carotid, the blood being cooled on ice. By adding .5 c.c. of this serum to a specimen of human blood diluted with salt solution or distilled water, the fluid becomes turbid and a precipitate is deposited, more abundant at 37 C. than at room temperature. The blood of 23 different kinds of animals was tested and the reaction found absolutely specific for each. The only exception is monkey's blood, which reacts feebly to the prepared human blood serum. In two dozen tests with blood from all these animals, distributed on various substances and left unprotected for three months, the results were as decisive as with fresh blood. A flake of the brown, dried blood, a trifle larger than a dime, was dissolved in 5 or 6 c.c. of salt solution and the fluid filtered until perfectly clear, when .5 c.c. of the prepared serum was added and the vessel kept in the autoclave at 37 C. In twenty minutes the tube containing the human blood became turbid, while all the others remained clear. In fifteen minutes more, a flaky precipitate was deposited in the human blood tube, while the monkey tube alone showed signs of cloudiness. Serum for treating the rabbits can be obtained from the hospitals, but in greater abundance at the maternities, from placentas squeezed to extract the blood. The reaction is more pronounced the fresher the rabbit serum, but it was obtained even with serum fourteen days old. A prepared serum of this kind could be supplied from a central station. Tests are now in progress with goats instead of rabbits and with the fluid from effusions, ascites, etc.

Adenomyoma Obliterating the Cervix. L. LANDAU. Mesonephric adenomyomata have been found at various parts of the internal genitalia, but Landau states that this is the first case on record in which one was located in the cervix. It completely obliterated the outlet, and the patient, a robust woman of 40, had never menstruated, although the molimen was marked every month. The tumor was solid, of the size and shape of an apple and accumulations of blood were found in the obstructed uterus and tubes, in the omentum and ovaries and beneath the peritoneum. Somewhat similar cases of gynatresia have been reported in Finland, operated on at the age of 40 and 46 years, and one by Rossa at 35.

Sterilization of Silk Catheters. MANKIEWICZ.—The sterilization of silk catheters, by boiling them for five minutes in a saturated solution of ammonium sulphate, is considered by Mankiewicz as a great advance in this line. All the bacteria and cocci are destroyed in two minutes, while the catheters are not injured in the least by the repeated process. They are placed first in the cold solution and heated with it.

Muenchener Med. Wochenschrift, March 5.

Influence of Salt Solution on the Morphology of Coagulation. E. SCHWALBE.—Isotonic salt solution has no influence on the process of coagulation, but a hyperisotonic, 2 to 3 per cent. solution, alters the shape of the red corpuscles, rapidly increases the number of blood-plates and has a marked effect in accelerating coagulation. These facts, observed by Schwalbe, suggest that the blood-plates must be derived from the red corpuscles. The alterations in the shape of the corpuscles and the development of blood-plates coincident with the accelerated coagulation also suggest an evident connection between these processes. The assumption seems plausible that coagulation is the result of the liberation of a ferment from the red corpuscles undergoing destruction from the hyperisotonic salt solution, and that the changes in the red corpuscles are the morphologic expression of coagulation.

Drumstick Finger. A. DENNIG.—In only one of the ten cases of drumstick finger noted by Dennig, was it possible, by radiography, to detect any involvement of the bone. He concludes that in the majority of cases the enlargement is due to congestion and hypertrophy of the soft parts of the tip of the finger involved. In rare cases there may be an ossifying periostitis of the terminal phalanx. The affection is consecutive to an infection or toxic process, a congenital heart affection, disease of the nervous system or a malignant tumor. In one of Dennig's cases the only cause that could be incriminated was severe gastrectasis.

Ulcus ex Digestione in the Esophagus. K. ORTMANN.—Schaffer has reported finding patches of typical stomach epithelium in the pavement epithelium of the esophagus. This helps to explain the process known as *ulcus ex digestione* in the esophagus. Ortmann describes two cases with no preceding corrosion from caustics or syphilis. The first was a healthy man of 42, who began to spit and vomit blood, with pains in the thorax, discomfort and pain during and after meals, localized at the lower portion of the sternum. After four years symptoms of stenosis of the esophagus appeared, with constant vomiting, most severe about 2 or 3 a. m. The esophagus became enlarged above the stenosis. After repeated sounding, the stenosis was dilated and the symptoms relieved. In the second case, a man of 28 with a record of cerebral inflammation at 2 years of age, nervous fever at 12 and inflammation of the lower lobe of the right lung at 22, but otherwise healthy, drank some very sour wine and immediately afterward experienced violent cramp in the stomach and chest. This was followed by frequent local oppression and vomiting during and after every meal, and again on retiring. The vomiting was not accompanied by pain after the first few days, but increased in amount. He never vomited blood. Stenosis of the esophagus with enlargement above occurred as in the first case, and the introduction of the sound alleviated the stenosis and cured the symptoms in the same way. The troubles had lasted six years in the first and seven in the second case. The increase of 8 and 9 pounds in weight indicates that the stenosis could not have been of a malignant character, but in a previously reported case Ortmann observed that a carcinoma developed later at the site of the stenosis. The pains were regularly experienced at the ensiform process whenever the patient swallowed and after the ingestion of food, and the slow gradual development of the stricture indicated the ulcerative nature of the process.

St. Petersburg Med. Wochenschrift, March 2 and 9.

Diagnostic Value of Pulse Tracings. J. GRUENBERG.—The tracings of the sphygmograph do not always afford reliable information in general hospital practice for various reasons, but in private practice they may be found of invaluable assistance in diagnosing obscure cases. The tracings are particularly instructive in the incipient stage of arteriosclerosis before an anatomic cause for the variations in the pulse exists. Gruenberg pleads for more general study of the pulse with instruments, as digital investigation alone is frequently misleading.

Queries and Minor Notes.

PHYSICIANS AND THE AUTOMOBILE.

Rochester, Minn., March 25, 1901.

To the Editor:—A recent request for information as to what is the best automobile for physicians' use urges me to give my experience. I have taken a great interest in the horseless carriage during the past few years, making several trips east to investigate them at exhibitions, and using a steam buggy during the past season with considerable pleasure.

The electric carriages are the easiest managed, the cleanest and least noisy. They have great objections in their weight, which causes them to pound over rough pavements, also in their short range of mileage, and in requiring special facilities for charging, which will limit their use to the city physician.

The gasoline carriages have more or less unpleasant vibration, and the higher power vehicles are clumsy in construction. The horse power has been gradually increased from three to nine to enable them to go through mud and climb the hills. Their main trouble is in the electric sparking device, which will be understood by those physicians who keep their medical batteries in order. In Europe, gasoline automobiles are in the lead, while in this country they are in a rapid transition stage of both engine and power transmission. The firms which appear to have the best outfits have none running, but the models, though many are under construction.

The steam buggy is the cheapest, lightest and most elegant for the amount of power developed. It requires the most attention from the operator, in spite of the many automatic additions. It slips and slides about in the mud in a most disagreeable manner, while in cold weather there is trouble from the freezing of the pipes and the necessity of keeping the barn warm. Reports from eleven steam vehicle operators, given in a recent edition of the *Automobile,* gave an average of over $100 for repairs in 2000 miles for each buggy.

The small wheels used in most automobiles require good roads for comfortable riding. At this time, my opinion is that steam is the most sure power, yet the rapid advance in gasoline engines will undoubtedly make them the most convenient in another year.

Automobiles at present are more or less of a pleasure vehicle for good roads, their perfection not being such as to warrant the physician who purchases one in selling his horse.

C. H. Mayo, M.D.

DRUGGISTS AS PHYSICIANS.

The secretary of a medical society writes as follows: "The —— Society, having adopted the Code of Ethics of the American Medical Association, has received an application for membership from a regular practitioner in this city who likewise owns and operates a drug store in his own name. Kindly advise me as to his eligibility."

Ans.—There is nothing in the Code of Ethics which prohibits a physician from acting as a pharmacist and putting up not only his own, but the prescriptions of other physicians. It is a question of taste whether the two professions should be combined. A physician who operates a drug store after the manner of many druggists, dispensing and commending secret nostrums, put up by himself or others, or who in any way, by sale or otherwise, promotes the use of patent or secret medicines, violates the letter and principles of the Code.

IF I SHOULD DIE TO-NIGHT.

Chicago, March 25, 1901.

To the Editor:—F. N. M., in The Journal of March 23, p. 851, asked where he could find the poem beginning: "If I should die to-night." The parody referred to is the poem on the first page of "Ben King's Verse" (Forbes & Co., 1900). The poem which inspired the parody was written by Arabella E. Smith, and can be found on page 309 of "The Humbler Poets" (A. C. McClurg & Co.). The parody is suggestive, and can be appreciated by men of experience in loaning money and collecting bills. The other poem is a gem and should be read and remembered.

H. S.

Muncie, Ind., March 23, 1901.

To the Editor:—"If I Should Die To-night," etc., is published in "The Doctor's Window," a volume of poems "By the Doctor, for the Doctor and About the Doctor." (C. W. Moulton, Buffalo, N. Y.) In that volume it is entitled: "The Latest Reconstructive Nerve-Tonic and Restorative." It was printed in the *Medical Standard,* Chicago, February, 1900, p. 106.

G. W. H. K.

[Answers have also been received from W. H. G., Philadelphia; F. B. F., Springfield, Ill.; N. L. J., Williamsport, Pa.; D. R., Atlanta, Ga.; W. T. M., Blue Mound, Ill., and E. W. B., St. Louis, Mo.—Ed.]

SCHOTT TREATMENT.

Nutley, N. J., March 16, 1901.

To the Editor:—Has there been published in The Journal a description of the baths and resistance treatment of the Schott brothers and Dr. Beyley Horn, of London, or where could I find such information?

J. C.

Ans.—Papers on the subject, by C. N. B. Camac, appeared in The Journal for Aug. 28, 1897, by Dr. Ellsworth Smith, in the issue of Jan. 28, 1898, and by C. L. Greene, Oct. 15, 1898.

ADDRESSES OF SECRETARIES.

Baltimore, Md., March 25, 1901.

To the Editor:—Kindly give me the name and address of the secretaries of the state boards of medical examiners of North Carolina and Pennsylvania, and oblige.

Subscriber.

Ans.—They are Dr. J. Howell Way, Waynesville, N. C., and James W. Latta, Esq., Department of Interior Affairs, Harrisburg, Pa.

ORIGINAL EXPERIMENTER WITH INDIVIDUAL COMMUNION CUP.

New York City, March 22, 1901.

To the Editor:—For the information of L. P. D., who is desirous of obtaining the name and address of the original experimenter in the individual communion cup agitation, please state that it was Dr. M. O. Terry, of Utica, N. Y., who was the first physician to publicly suggest the desirability of a change. This he did in a paper read before the Oneida County Medical Society, in January, 1887.

Albert S. Ashmead, M.D.

Books Received.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interest of our readers.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hospital. Volume 1. March, 1901. Surgery of the Head, Neck, and Chest—*Infectious Diseases, Including Acute Rheumatism,* Croupous Pneumonia and Influenza—Diseases of Children—Pathology—Laryngology and Rhinology—Otology. Cloth. Pp. 440. Price, $2.50. Philadelphia and New York: Lea Brothers & Co. 1901.

Transactions of the American Dermatological Association at its Twenty-fourth Annual Meeting held in Washington, D. C., May 1, 2 and 3, 1900, in Connection with the Fifth Triennial Session of the Congress of American Physicians and Surgeons. Official Report of the Proceedings. By Frank Hugh Montgomery, M.D. Cloth. Pp. 235. Chicago: P. F. Pettibone & Co. 1901.

Infant Feeding in its Relation to Health and Disease. By Louis Fischer, M.D., Attending Physician to the Children's Service of the New York German Poliklinik. Containing 52 Illustrations, with 23 Charts and Tables, Mostly Original. Cloth. Pp. 359. Price, $1.50 net. Philadelphia and Chicago: F. A. Davis Co. 1901.

Diet and Food, Considered in Relation to Strength and Power of Endurance, Training and Athletics. By Alexander Haig, M.A., M.D., Oxon., F.R.C.P., Physician to the Metropolitan Hospital. Third Edition. With Five Illustrations. Cloth. Pp. 112. Price, $1.00. Philadelphia: P. Blakiston's Son & Co. 1901.

The Treatment of Fractures. By Charles Locke Scudder, M.D., Surgeon to the Massachusetts General Hospital, Out-Patient Department. Assisted by Frederick J. Cotton, M.D. Second edition, Revised. With 611 Illustrations. Cloth. Pp. 457. Price, $4.50 net. Philadelphia and London: W. B. Saunders & Co. 1901.

A Text-Book of Diseases of the Nose and Throat. By D. Braden Kyle, M.D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College. With 175 Illustrations, 23 of them in Colors. Second Edition. Cloth, Pp. 646. Price, $4.00 net. Philadelphia: W. B. Saunders & Co. 1900.

A Manual of Practical Hygiene for Students, Physicians, and Medical Officers. By Charles Harrington, M.D., Assistant Professor of Hygiene in the Medical School of Harvard University. Illustrated with 12 Plates and 105 Engravings. Cloth. Pp. 729. Price, $4.25 net. Philadelphia and New York: Lea Brothers & Co. 1901.

Newfoundland in 1900. A Treatise of the Geography, Natural Resources and History of the Island, Embracing an Account of Recent and Present Large Material Movements. By Rev. M. Harvey, LL.D., F.R.C.S. Finely Illustrated with Maps and Half-tone Engravings. Cloth. Pp. 187. New York: The South Publishing Co. 1900.

A Text-Book of Ophthalmology. By John W. Wright, A.M., M.D., Professor of Ophthalmology and Clinical Ophthalmology in the Ohio Medical University. Second Edition, Thoroughly Revised. With 117 Illustrations. Cloth. Pp. 378. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1900.

Chloroform: A Manual for Students and Practitioners. By Edward Lawrie, M.B., Edin., M.R.C.S. Eng., Lieutenant-Colonel I. M. S. Cloth. Pp. 120. Price, $1.75 London: J. & A. Churchill. 1901.

Manuale di Chirurgia Operatoria, Dei Dottori R. Strecchi e A. Gardini. Con 118 Incisioni. Cloth. Pp. 64. Milano: Ulrico Hoepli. 1901.

Retinoscopy (Or Shadow Test) in the Determination of Refraction at One Meter Distance, with the Plane Mirror. By James Thorington, A.M., M.D., Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine. Fourth Edition, Revised and Enlarged. 51 Illustrations, 12 of Which are Colored. Cloth. Pp. 89. Price $1.00. Philadelphia: P. Blakiston's Son & Co. 1901.

Pulmonary Consumption, Pneumonia, and Allied Diseases of the Lungs; Their Etiology, Pathology and Treatment, with a Chapter on Physical Diagnosis. By Thomas J. Mays, A.M., M.D., Professor of Diseases of the Chest in the Philadelphia Polyclinic. Illustrated. Cloth. Pp. 539. Price, $3.00. New York: E. B. Treat & Co. 1901.

What a Man of Forty-five Ought to Know. By Sylvanus Stall, D.D., Author of "What a Young Boy Ought to Know." Cloth. Pp. 284. Price, $1.00. Philadelphia and London: Vir Publishing Company.

Transactions of the American Climatological Association. For the Year 1900. Volume XVI. Cloth. Pp. 210. Philadelphia: Printed for the Association. 1900.

Coincident Typhoid and Malarial Infection. Report of a Case and Review of the Literature, with a Discussion of the So-called Typhomalarial Fever. By Irving Phillips Lyon, M.D., (Johns Hopkins), Buffalo, N. Y. Paper. Pp. 30. From the Johns Hopkins Hospital Reports.

Six Months Abroad on Three Hundred Dollars. An Account of a Tour Taken by a Gentleman and His Wife in Germany, Belgium, Egypt, Palestine, Syria, Turkey, Greece, Italy, Switzerland, France, England and Scotland. Paper. Pp. 43. Price, $0.50. Carrollton, Mo.: E. H. Kellar. 1901.

Tuberculosis as a Disease of the Masses, and How to Combat *it. Prize Essay by* S. A. Knopf, M.D., New York. Paper. Pp. 86. Price, $0.25. New York: M. Firestack. 1901.

Proceedings of the Philadelphia County Medical Society. During January. Paper. Pp. 42. Price per copy, $0.15. Philadelphia: Published by the Society.

The Circulation in the Nervous System. By Herman Gasser, M.D. Paper. Pp. 156. Price, $1.00. Platteville, Wis.: Journal Publishing Co. 1901.

The Students' Manual of Venereal Diseases. By F. R. Sturgis, M.D., Sometime Clinical Professor of Venereal Diseases in the Medical Department of the University of the City of New York. Seventh Edition. Revised and in Part Rewritten by F. R. Sturgis, M.D., and Follen Cabot, M.D., Instructor in Genito-urinary and Venereal Diseases in the Cornell University Medical College. Cloth. Pp. 216. Price, $1.25. Philadelphia: P. Blakiston's Son & Co. 1901.

Manual of the Diseases of Children. By John Madison Taylor, A.M., M.D., Professor of Diseases of Children, Philadelphia Polyclinic, and William H. Wells, M.D., Adjunct Professor of Obstetrics and Diseases of Infancy in the Philadelphia Polyclinic. Second Edition, Thoroughly Revised and Enlarged. Illustrated. Cloth. Pp. 859. Price, $4.50. Philadelphia: P. Blakiston's Son & Co. 1901.

A Laboratory Guide in Elementary Bacteriology. By William Dodge Frost, Instructor in Bacteriology, University of Wisconsin. Illustrated. Cloth. Pp. 205. Price, $1.60. Madison, Wis.: Published by the Author. 1901.

A Treatise on Appendicitis. By George Ryerson Fowler, M.D., Professor of Surgery in the New York Polyclinic. Second Edition. Revised and Enlarged. Cloth. Pp. 235. Price, $2.50. *Philadelphia* and London: J. B. Lippincott Co. 1900.

New Patents.

Patents of interest to physicians, etc., March 5 and 12:

669,336. Local application of electric treatment to the human body. Herrman Behrendt, Worms, Germany.

669,361. Obtaining albumen. Georg Deycke, Constantinople, Turkey.

669,217. Invalid bed. John Hanson, Hansonville, Minn.

669,087. Device for applying hot air to parts of the body. John C. Hoyt, Richmond, Mo.

669,098. Inhaler. Timothy T. Overshiner, Marion, Ind.

669,100. Physicians' electric lamp. Purdy M. Randall, New York City.

669,450. Device for handling invalids. Cornelius Stephens, Reno, Mich.

669,271. Making phosphoric acid. Frank P. Van Denbergh, Buffalo, N. Y.

669,910. Irrigating vaginal syringe. Joseph P. Ball, Hesston, Kan.

669,583. Breast pump. Joseph H. Hoover, Waterloo, Iowa.

669,756. Bed-pan. Mary MacAdam, Lynn, Mass.

669,757. Vaporizer. Thomas A. Mack, New York City.

669,846. Apparatus for exercising and developing the fingers. Jean Morat, Lyons, France.

669,716. Topical remedy. Robert Wallace, Louisville, Ky.

34,202. Design, atomizer and inhaler. Charles M. Blackman, New York City.

34,201. Design, medicinal tube. Louis F. Cushing, Gray, Maine.

The Public Service.

Promotions and Appointments of Army Medical Officers, Regulars and Volunteers.

The following promotions and appointments in the Medical Department, U. S. A., and appointments to positions as surgeons and assistant surgeons, U. S. Vols., consequent on the passage of the army reorganization bill on February 2, last, have been reported up to March 15, 1901:

PROMOTIONS IN U. S.

To be assistant-surgeons general, with the rank of colonel—Lieut.-Cols. Justus M. Brown and Charles Smart, Feb. 2; Peter J. Cleary, Feb. 4.

To be deputy surgeons general, with the rank of lieutenant-colonel—Majors Joseph B. Girard, Feb. 2; Ezra Woodruff, Feb. 2; John D. Hall, Feb. 2; Philip F. Harvey, Feb. 2; Charles B. Byrne, Feb. 4.

Assistant-surgeons to be surgeons, with the rank of major—Captains Adrian S. Polhemus, William C. Borden, Edgar A. Mearns, Guy L. Edie, William D. Crosby, William L. Kneedler, Charles M. Gandy, Charles B. Ewing, Walter D. McCall, Jefferson R. Kean, Henry I. Raymond, Francis J. Ives, William P. Kendall, Edward R. Morris, Feb. 2; Henry S. T. Harris, Feb. 4.

APPOINTMENTS IN U. S. A.

To be assistant-surgeons with rank of first lieutenant—Arthur W. Morse, of Illinois, Feb. 4; Frank C. Baker, of the District of Columbia, Feb. 4; Henry S. Kiersted, of Pennsylvania, Feb. 4; Allie W. Williams, of Georgia, Feb. 4; John J. Reilly, of New York, Feb. 4; Jerome S. Chaffee, of New York, Feb. 4; John D. Yost, of Massachusetts, Feb. 11; Charles R. Reynolds, of New York, Feb. 11; Paul C. Hutton, of North Carolina, Feb. 11; Frederick A. Dale, of Pennsylvania, Feb. 11; William M. Roberts, of Maryland, Feb. 11; Charles W. Farr, of New York, Feb. 11; James P. Edwards of Pennsylvania, March 6; Jay R. Shook, of Pennsylvania, March 6; William E. Vose, of Maryland, March 6; Frank T. Woodbury, of Pennsylvania, March 6.

APPOINTMENTS, U. S. VOLUNTEERS.

To be surgeons with rank of major from Feb. 7—Acting Assistant Surgeons Joseph Milton Heller, Arlington Pond. Majors Henry *D. Thomason, surgeon; Samuel O. L. Potter, surgeon; Acting* Assistant-Surgeon Robert H. Zauner; Captain William Bowen, assistant-surgeon, 27th Infantry, U. S. Vols.; Major Joseph N. Henry, surgeon 31st Infantry, U. S. Vols.; Acting Assistant-Surgeon Walter Whitney.

To rank from March 11—Majors Herbert W. Cardwell, Henry F. Hoyt, Samuel T. *Armstrong, George H.* Penrose, William F. de Niedeman, Ira C. Brown, Frederick J. Combe, Franklin A. Meacham, Charles M. Drake, Thomas C. Chalmers, 28th Infantry, John R. McDill, 30th Infantry; John R. Hereford, 32d Infantry; Luther B. Grandy, 35th Infantry, Seaton Norman, 39th Infantry. Captains Shadworth O. Beasley, 11th Cavalry; James C. Miner, 29th Infantry, Frederick Hadra, 30th Infantry; John A. Metzger, 35th Infantry; Thomas B. Anderson, 37th Infantry; Charles L. Furbush, 44th Infantry; Robert P. Robins, 47th Infantry, William H. Cook, *32d Infantry.*

To be assistant-surgeons, with rank of captain from Feb. 7—Acting Assistant-Surgeons Clark I. Wertenbaker, Frank A. E. Disney, Charles H. Andrews, Robert M. Enders, Sr., Matthew Leepere, Charles Anderson, James S. Kennedy, Frank P. Kenyon of Kentucky, Guy G. Bailey, George A. McHenry, Edward F. Horr, Shannon Richmond, Elmer S. Tenney, Samuel D. Huntington, Captain James J. Erwin, 30th Infantry; Acting Assistant-Surgeons James F. Presnell, Frederick H. Sparrenberger, Irvin E. Bennett, James H. McCall, Thomas C. Stunkard, Harold W. Cowper, Dwight B. Taylor.

From Feb. 9—Acting Assistant-Surgeon Harry A. Littlefield, Frederick W. Cox of South Dakota, Gerry S. Driver.

From Feb. 11—Acting Assistant-Surgeons Justus M. Wheate, Francis M. McCallum.

From Feb. 12—Captain Isaac W. Brewer, 36th Infantry; Ernest H. Wheeler, of Maine.

From Feb. 14—Acting Assistant-Surgeons George W. Daywalt, Frederick C. Jackson.

From Feb. 18—Acting Assistant-Surgeons James J. Edmonson, Joseph C. Reifsnyder, Joseph J. Curry of Massachusetts, James K. Stockard, George R. Plummer, William R. Van Tuyl, John S. Fogg.

From Feb. 20—Acting Assistant-Surgeon William F. James.

From March 11—First Lieutenants George P. Peed, 28th Infantry; W. Dudley, asst.-surgeon 32d Infantry; John Carlin, 35th Infantry; George S. Wallace, 42d Infantry; Laurel B. Sandall, 43d Infantry; *Acting-Assistant-Surgeons* Timothy F. Goulding, Charles F. de Mey, Bruce Foulkes, Henry W. Eliot, H. Eugene Stafford, Waller H. Dade, Fred F. Sprague, Rene Vandam, Fred M. Barney, William G. Miller, John C. Orr, Arthur D. Prentice, Elwin W. Ames, William A. Tukey, George H. Jones, Frederick H. Morehart, Harry S. Moore, Verdo B. Gregory, Clarence H. Long, Henry H. Rutherford, George A. Zeller, Walter C. Chidester, Palmer H. Lyon, Edwin C. Shattuck, Frederick D. Branch, Ira Ayer, Albert L. Miller, Charles G. Eicher, John J. Repetti, Gilbert I. Cullen, Raymond E. Whelan, Cyrus D. Lloyd, William E. McPherson, Wilson Murray, Thomas H. Landor, Charles A. Cattermole, Robert Boyd, John S. Hill, Donald P. McCord, John T. H. Slayter, Henry Pick, James B. Pascoe, Charles H. Stearns, Oscar W. Woods, Arthur Jordan, Perceval S. Rossiter, Thomas W. Bath, Vernon K. Earthman, Carl R. Hexamer, George L. Painter, Starling S. Wilcox, William W. Calhoun, Allen D. McLean, Robert A. Anderson, William O. Davies, Frank DuBois, Samuel K. Carson, George E. Means, Jerome B. Thomas, Paul T. Dessez, John F. Miner, Edwin P. Hayward, Vernon J. Hooper, Najeeb N. Saleeby, Eduardo C. Poey, W. Edson Apple, Herman J. Schlageter, George K. Sims, Lewis T. Griffith, Charles B. Nichols, William D. Shelby, Alva S. Pinto, William R. Davis, First Lieut. Loren B. T. Johnson, 36th Infantry; Acting Assistant-Surgeons Charles W. Hack, Frank D. Pease, Thomas C. Longino, Compton Wilson, Charles R. Gill, Charles E. MacDonald, Francis Persell, William T. Tanner, Ira A. Allen.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., March 14 to 20, 1901, inclusive:

G. Parker Dillon, acting asst.-surgeon, from Grand Rapids, Mich., to duty at Fort Sheridan, Ill.

William F. Lewis, major and surgeon, Vols., from the Division of the Philippines to duty at Fort Leavenworth, Kan, relieving Major Adrian Polhemus, surgeon, U. S. A.

George A. McHenry, captain and asst.-surgeon, Vols., recently appointed and now at Santiago, Cuba, to proceed to San Francisco, Cal., en route to *Manila*, P. I., for assigument in the Division of the Philippines.

Edward R. Morris, captain and asst.-surgeon, U. S. A., relieved from further duty as examiner of recruits in the city of Detroit, Mich.

George R. Plummer, captain and asst.-surgeon, Vols., recently appointed, relieved from duty in the Department of Cuba, and to proceed to San Francisco, Cal., en route for service in the Division of the Philippines.

Adrian Polhemus, major and surgeon, U. S. A., from Fort Leavenworth, Kan., to San Francisco, Cal., en route for service in the Division of the Philippines.

Josiah W. Richards, acting asst.-surgeon, from the transport *Buford* to proceed from San Francisco, Cal., to Fort Mott, N. J., for duty at that port.

Najib Taky-ud-Deen, acting asst.-surgeon, from Washington, D. C., to duty at Columbus Barracks, Ohio.

Blair D. Taylor, major and surgeon, U. S. A., member of a board at Honolulu, H. I., to examine officers of the army for promotion.

Fred R. Underwood, acting asst.-surgeon, from London, Ohio to duty at Fort Leavenworth, Kan.

Walter Whitney, major and surgeon, Vols., from Fort Walla Walla, Wash., to San Francisco, Cal., en route for service in the Division of the Philippines.

Adrian D. Williams, acting asst.-surgeon, from Fort Adams R. I., to duty with the 1st Battalion, 11th U. S. Infantry, en route to Manila, P. I., and for subsequent assignment in the Division of the Philippines.

Charles F. Williams, acting asst.-surgeon, relieved from temporary duty at Fort Screvens, Ga., and assigned to duty at Fort McPherson, Ga., where he will become a member of an examining board, relieving A. A. Surgeon Francis A. Halliday.

Charles E. Woodruff, captain and asst.-surgeon, U. S. A., member of a board at Fort Riley, Kan., for the examination of officers of the army for promotion, relieving Major Adrian Polhemus, surgeon, U. S. A.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending March 23, 1901:

Medical Director J. B. Parker, detached as president of medical examining boards, Washington, and ordered to Naval Home, Philadelphia.

Medical Director R. A. Marmion, detached from Naval Home, and to duty at the Washington Navy Yard, as president of the examining board.

P. A. Surgeon J. M. Moore, detached from the Port Royal Naval Station, and ordered to the *Franklin*, April 2.

P. A. Surgeon E. S. Bogert, detached from the *Massachusetts*, and ordered home to wait orders.

Asst.-Surgeon H. C. Shiffert, detached from the *Franklin*, and ordered to the *Solace*, April 1, and to the Asiatic Station.

Asst.-Surgeon J. C. Thompson, ordered to the Port Royal Station.

Asst.-Surgeon F. Thompson, detached from *Nashville*, and to *Solace*.

Asst.-Surgeon N. E. Hass, ordered to Naval Hospital, New York.

Asst.-Surgeon W. B. Grove, from Naval Hospital, New York, to Naval Hospital, Norfolk, Va.

Surgeon J. F. Bransford, retired in accordance with act of congress, approved Feb. 5, 1901.

Asst.-Surgeon S. S. Rodman, detached from Naval Hospital, Mare Island, and to the *Adams*.

Asst.-Surgeon R. T. Orvis, detached from the *Adams*, and ordered to Naval Hospital, Mare Island.

Medical Director E. S. Bogert, retired, detached from recruiting rendezvous, New York, and home.

Surgeon H. L. Law, retired, ordered to recruiting rendezvous, Buffalo, N. Y.

Surgeon M. H. Crawford, detached from recruiting rendezvous, Buffalo, N. Y., and to Marine Recruiting Rendezvous, New York City.

Surgeon P. Leach, detached from the *Oregon*, and to the *Monocacy*.

P. A. Surgeon S. G. Evans, from the *Kentucky* to the *Concord*.

P. A. Surgeon A. Farenholt, from the *Concord* to the *Oregon*.

Asst.-Surgeon W. E. G. High, from the *Oregon* to the *Kentucky*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 14 days ended March 21, 1901:

Surgeon Preston H. Bailhache, relieved from duty at the bureau and directed to proceed to Stapleton, N. Y., and assume command of the service, relieving Surgeon G. W. Stoner. March 8, 1901.

Surgeon G. M. Stoner, upon being relieved by Surgeon Preston H. Bailhache, to proceed to Immigration Depot, New York City, and assume command of the service, relieving Surgeon L. L Williams. March 8, 1901.

Surgeon H. R. Carter, upon being relieved by P. A. Surgeon G. B. Young, to proceed to Baltimore, Md., and assume command of the service, relieving P. A. Surgeon B. W. Brown. March 8, 1901.

Surgeon A. H. Glennan, granted leave of absence for eleven days from March 6, March 8, 1901.

Surgeon L. L. Williams, upon being relieved by Surgeon G. W. Stoner, to proceed to Washington, D. C., and report at bureau for duty, March 8, 1901.

P. A. Surgeon G. B. Young, upon being relieved by Asst.-Surgeon C. H. Lavinder, to proceed to Louisville, Ky., and assume command of the service, relieving Surgeon H. R. Carter, March 8, 1901.

P. A. Surgeon B. W. Brown, upon being relieved by Surgeon H. R. Carter, to proceed to Evansville, Ind., and assume command of the service, relieving P. A. Surgeon J. H. Oakley. March 8, 1901.

P. A. Surgeon J. A. Nydegger, relieved from duty at Chicago, Ill., and directed to assume command of the Cape Charles quarantine station, relieving Asst.-Surgeon C. W. Wille. March 11, 1901.

Official list of changes date January 17, 1901, amended so that leave of absence granted P. A. Surgeon Nydegger for thirty days shall read: Leave of absence on account of sickness. March 13, 1901.

Asst.-Surgeon H. S. Mathewson, to proceed to Washington, D. C., for examination for promotion. March 8, 1901.

P. A. Surgeon J. H. Oakley, upon being relieved by P. A. Surgeon B. W. Brown, to proceed to Cairo, Ill., and assume command of the service, relieving Asst.-Surgeon J. M. Holt. March 8, 1901.

Asst.-Surgeon C. H. Lavinder, to proceed to Delamare Breakwater and assume command of the service, relieving P. A. Surgeon G. B. Young. March 8, 1901.

Asst.-Surgeon M. H. Foster, granted leave of absence for twenty days from April 1. March 11, 1901.

Asst.-Surgeon W. W. King, to proceed to San Juan, P. R., for special temporary duty. March 8, 1901.

Asst.-Surgeon J. M. Holt, upon being relieved by P. A. Surgeon J. H. Oakley, to report to him for duty. March 11, 1901.

Asst.-Surgeon F. E. Trotter, granted leave of absence for twenty-six days from April 9. March 11, 1901.

Asst.-Surgeon C. W. Wille, upon being relieved by P. A. Surgeon J. A. Nydegger, to report to him for duty. March 11, 1901.

A. A. Surgeon D. E. Dudley, relieved from duty at Havana, Cuba, and assigned to duty in the office of the U. S. Consul at Vera Cruz, Mexico. March 1, 1901.

A. A. Surgeon S. H. Hodgson, relieved from duty at Vera Cruz, Mexico, and assigned to duty in the office of the U. S. Consul at Progreso, Mexico.

A. A. Surgeon A. B., McDowell, granted leave of absence for ten days. March 9, 1901.

Surgeon C. T. Peckham, granted leave of absence on account of sickness, for 20 days from March 9. March 19, 1901.

Surgeon R. M., Woodward, detailed as inspector of unserviceable property in the Hygienic Laboratory, Washington, D. C. March 21, 1901.

P. A. Surgeon J. A. Nydegger, to proceed to Norfolk, Portsmouth and Newport News, Va., on special temporary duty. March 19, 1901.

P. A. Surgeon C. H. Gardner, granted leave of absence for three days from April 4. March 16, 1901.

Asst.-Surgeon J. M. Holt, bureau order of March 8, 1901, directing Asst.-Surgeon Holt to report to P. A. Surgeon J. H. Oakley for duty, amended, and Asst.-Surgeon Holt directed to proceed to Chicago, Ill., and report to medical officer in command for duty and assignment to quarters. March 20, 1901.

A. A. Surgeon W. S. Walkley, granted leave of absence for two days. March 19, 1901.

Hospital Steward C. G. Carlton, to proceed to Mobile, Ala., and report to medical officer in command for temporary duty. March 15, 1901.

BOARD CONVENED.

Board convened to meet at Washington, D. C., on or about March 19, 1901, to examine Asst.-Surgeon H. S. Mathewson to determine his fitness for promotion to the grade of passed assistant surgeon. Detail for the Board: Surgeon P. H. Bailhache, chairman; Surgeon G. T. Vaughan; P. A. Surgeon H. D. Geddings, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 23, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

District of Columbia: Washington, March 2-16, 10 cases.

Florida: Jacksonville, March 9-16, 4 cases.

Illinois: Chicago, March 9-16, 8 cases.

Indiana: Terre Haute, Feb. 4-11, 2 cases.

Kansas: Wichita, March 8-16, 15 cases.

Kentucky: Lexington, March 8-16, 1 case.

Louisiana: New Orleans, March 8-16, 14 cases, 4 deaths.

Maryland: Baltimore, March 8-16, 1 case.

Michigan: Bay City, March 8-16, 2 cases; Detroit, March 8-16, 4 cases; West Bay City, March 1-16, 1 case.

Minnesota: Minneapolis, March 2-16, 11 cases; Winona, March 8-16, 26 cases.

Nebraska: Omaha, March 2-9, 5 cases.

New Hampshire: Manchester, March 8-16, 3 cases.

New York: Elmira, March 2-9, 1 case; New York, March 8-16, 37 cases, 6 deaths.

Ohio: Cleveland, March 8-16, 46 cases; Toledo, March 2-16, 3 cases.

Pennsylvania: March 8-16, Erie, 1 case; McKeesport, 3 cases: Pittsburg, 2 cases: Steelton, 5 cases.

Tennessee: March 8-16, Memphis, 20 cases; Nashville, 14 cases.

Utah: Salt Lake City, March 2-16, 97 cases.

Porto Rico: Feb. 8-March 5, Aguas Buenas, 2 cases: Bayamon, 2 cases: Caguas, 2 cases: Ciales, 2 cases; Morovis, 2 cases; Ponce, 98 cases, 1 death; Quebradillas, 4 cases; Rio Piedars, 1 case: San Juan, 7 cases.

Philippines: Manila, Jan. 29-Feb. 9, 11 cases.

SMALLPOX—FOREIGN.

Brazil: Pernambuco, Jan. 17-31, 25 deaths; Rio de Janeiro, Feb. 16-28, 36 deaths.

Canada: Ontario—March 2, Bracebridge, 2 cases; Georgian Bay, prevalent; Orillia, 1 case; Penetanguishine, 1 case: Toronto, 4 cases.

Egypt: Cairo, Feb. 11-25, 3 deaths.

France: Paris, Feb. 8-March 2, 21 deaths.

Great Britain: London, Feb. 23-March 2, 1 case; Glasgow, March 1-8, 46 cases, 12 deaths.

India: Bombay, Feb. 12-19, 7 deaths; Madras, Feb. 9-15, 5 deaths.

Mexico: Tuxpam, Feb. 25-March 4, 1 death.

Russia: Moscow, Feb. 14-23, 4 cases; St. Petersburg, Feb. 16-23, 3 cases; Moscow, Feb. 16-23, 12 cases.

Spain: Barcelona, Jan. 1, March 2, 253 deaths; Corunna, Feb. 23-March 2, 1 death; Valencia, Feb. 8-24, 1 case.

YELLOW FEVER.

Cuba: Havana, March 4-11, 1 case.

CHOLERA.

India: Bombay, Feb. 12-19, 3 deaths; Madras, Feb. 9-16, 12 deaths.

Straits Settlements: Singapore, Jan. 26-Feb. 2, 10 deaths.

PLAGUE.

Africa: Cape Town, Feb. 16-26, 44 cases, 6 deaths.

India: Bombay, Feb. 12-19, 897 deaths.

Philippines: Manila, Jan. 19-Feb. 9, 7 cases, 4 deaths.

Straits Settlements: Singapore, Jan. 26-Feb. 2, 1 death.

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Address.

REFLECTIONS UPON THE PRESENT STATUS OF CLINICAL MEDICINE.[*]

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PHILADELPHIA.

The pleasure and satisfaction with which I accepted the invitation of your president, to deliver the address on this occasion, I am free to admit were somewhat tempered by the knowledge that I was expected to say something. The selection of a subject that might be at the same time appropriate and interesting has been to me a matter of considerable concern. More especially has this been the case as the advent of the new century brings with it the temptation to review the achievements of medicine during the past one hundred years and to prognosticate the promises of the future. The changes wrought in medicine during the nineteenth century have been so revolutionary, the achievements so marvelous, the discoveries so numerous, the inventions so ingenious and of such far-reaching consequences to the individual and to humanity, that a discussion of them seems most pertinent and inviting. I have, however, been restrained from acceding to this temptation because I fully appreciate that it would be futile, in the time at my disposal, to attempt a survey even in a most cursory manner, of a field so extensive, and because I am well aware that such reviews will be made by other pens more able than mine. I have, nevertheless, thought that it might not be unprofitable to call your attention to some reflections upon the present status of clinical medicine and upon the relation of science to medicine at the dawn of the twentieth century. Such reflections must necessarily be cursory and fragmentary, rather than complete and exhaustive; they must serve to recall that which is probably more or less well known, rather than adduce new facts or novel theories. It is hoped, however, that they may be somewhat indicative of the changes in the art and science of medicine during the past, reflective of the trend of medical opinion at the present time, and possibly suggestive of the achievements to be expected in the future.

MEDICINE A SCIENCE OR AN ART.

From time to time it has been much debated whether medicine is a science or an art. It seems to me, however, that the abstract question admits of but a single answer. Aristotle defined medicine as the art of healing—and surely medicine broadly speaking is the art of healing disease. Such, however, have been the developments of medicine during recent years, that to the more practical art of healing disease has been added the likewise practical, but more ideal, art of preventing disease. The modern conception of medicine, therefore, is the art of preventing and healing disease. It concerns itself not so much with abstract problems and speculation, as with concrete instances of disease, with disease as it occurs in the individual; in prophylaxis, however, its scope is broadened so as to include whole communities and nations. It is an art that all may cultivate, though each may not become equally proficient in its practice. Its acquisition depends in large part upon the character and personal qualities of the individual, upon the possession of an observant and properly trained mind and upon experience. These, however, avail the physician but little unless he be well-grounded in the sciences upon which medicine depends for its very existence; the art without the science leads inevitably to charlatanism. Thus medicine, like other arts—such as engineering, navigation, etc.—is founded upon science, upon the sciences of physiology, chemistry, pathology, bacteriology, and pharmacology, as well as upon certain well-defined principles of physic.

NEED OF KNOWLEDGE OF PATHOLOGY.

It is by no means my intention to discuss all the questions that obtrude themselves for consideration. The majority of us become general practitioners of medicine and surgery, and that which concerns us especially is the acquisition of the ability to recognize and differentiate disease, and hence to be able to institute the appropriate treatment. In passing, I may say that he who diagnoses well, treats well, and that the acquisition of the ability to do both is best facilitated by a thorough knowledge of the fundamental sciences of medicine. The importance of the principles of physic, and of chemistry, physiology, and pharmacology has been so long recognized as to require no reiteration from me. I can not, however, refrain from directing attention to the importance of science in general, and the sciences of pathology and bacteriology in particular, in the recent wonderful advances of medicine.

To my surgical confrères, I need but mention the value of a thorough knowledge of physics and mechanics in the appreciation of the factors at work in the causation and repair of luxations, fractures, deformities of the limbs and vertebras, hernias, foreign bodies and calculi in the several cavities of the body, etc. A knowledge of physiology and chemistry, of fundamental importance in the study of medicine, is of no less value in the understanding of many problems in internal medicine—such for instance, as many of the disorders of metabolism and of nutrition, of atrophy and hypertrophy and degeneration; derangements of the functions of many of the organs of the body that are now known to have an internal secretion; the manifestations and appropriate treatment of many of the poisons, be they metabolic or physiologic, chemic or bacterial, etc.

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[*] Inaugural address delivered at the opening of the session of the Medical Department of the University of Vermont, Jan. 3, 1901.

But he who will be a good diagnostician and a rational therapist must understand disease—he must know pathology. By this I do not mean that he must be acquainted merely with the macroscopic and microscopic appearances of diseased tissues and organs; such limited information avails but little in the practical application of our knowledge at the bedside. But I do mean that, in addition, he must be conversant with the natural history of disease and with the nature of diseased processes; he must be able to distinguish cause from effect; he must understand the reactions of the body to various morbific agencies, such as heat and cold, chemic and mechanic irritants, parasites and their deleterious products; he must appreciate the manner of the production of morbid physiology or the symptoms of disease; he must endeavor to fathom as far as possible the means provided by Nature to ward off, neutralize, and counteract the various morbific agencies and their deleterious products; he must study the phenomena of natural and acquired immunity to certain diseases; he must recognize that senility and finally death are natural events in the course of all forms of life, and that the retrograde alterations and degenerations that accompany and characterize old age are not necessarily manifestations of disease. Senility itself is an elastic term and is not always to be measured by the number of years that a man has lived. In the homely saying that a man is as old as his arteries, there is a goodly portion of truth. We recognize, however, that certain tissue metamorphoses that accompany and are expected in old age are distinctly pathologic when encountered, as they sometimes are, in earlier life. It is the physician confident in the possession of the knowledge as here outlined who is capable of recognizing and discriminating between diseased processes in actual practice; who is able to detect the earliest manifestations of the insidious onset of certain chronic diseases and by appropriate treatment to ward off the acute and alarming symptoms of some of them; who in the presence of disease assists Nature when there exists no specific for the malady in question, and who rationally administers it when there is one; who is able to prognosticate the outcome; and who does not retard the efforts of Nature by the indiscriminate and injudicious use of drugs and other remedial measures that are not indicated.

RISE OF DOGMATIC MEDICINE.

That a thorough knowledge of pathology is essential to correct diagnosis is sufficiently evident from the egregious blunders made by eminent physicians before the dawn of modern pathology and by others at the present time who are unacquainted with the subject. In days gone by there was much wise talk of impurities of the blood; of humors and of temperaments; of animal and vital spirits, etc. What we now know to be merely symptoms of diverse diseases were in those days mistaken for the disease itself. Thus a patient was said to suffer with a rheum, a palsy, a dropsy, or a fever. Ascites was held to be the cause of cirrhosis of the liver, fever of the excavations of the lungs in phthisis, asthma of dilatation of the heart, anarsarca of albuminuria, etc. The same erroneous views are evident in the designations applied to certain diseases, and which persist to the present time. Thus apoplexy means a stroke or striking down; pleurisy, stitches in the side; podagra, a seizure in the foot or a foot-ache; etc. Even when an examination of the body was made after death, the patient was often reported to have succumbed to such disorders as a "decline," and the like. When such were the ideas of disease, it is not surprising that certain systems of medicine arose and flourished for a time. Of these I might mention the "depletory," the "corroborant," the "iatro-mechanical," the "iatro-chemical;" that founded on the doctrine of signatures, in conformity with which the Paracelsian physician prescribed an infusion of yellow flowers and saffron for jaundice, an infusion of roses and bloodstone for hemorrhage, the spotted leaves of pulmonaria for tuberculous lungs, etc; that practiced by the astrologers who in accordance with the horoscope of the patients, prescribed various metals and plants; the Brunonian according to which disease resulted from either a deficiency or an excess of excitement; and finally that which still persists, homeopathy, "of which the theoretical absurdity is somewhat concealed by the more obvious nonsense of infinitesimal doses." (Pye-Smith.) It is not to be wondered at that the times when systems of medicine founded upon dogma flourished were not far removed from the days of exorcisms, incantations, witchery, etc.

END OF DOGMA IN MEDICINE.

With the dawn of modern pathology, however, when diseased processes, as other departments of science, began to be studied and patiently investigated for their sake alone; when there came to the prosecution of the investigations the genius of Meckel and Rokitansky in Germany and Austria; Laennec, Bayle, and Cruveilhier in France; Baillie, Abercrombie, and Bright in England; and later Cohnheim and Pasteur, the still living and distinguished Koch, the much revered Virchow, and a host of others in all parts of the world, the times of dogmatic medicine came to an end, the systems of medicine were buried in irrevocable oblivion, and exact diagnosis and rational therapy became a possibility. It was in consequence of the pioneer work of these men that empirical methods were replaced by those of science; to them the honor that, as regards medicine, the nineteenth century will be known as the age of cultivation of the scientific spirit. It is to the original investigations and patient research inaugurated and stimulated by these men, the seeking after new discoveries, the constant endeavor to add to our store of facts, that the wonderful achievements of medicine during the latter part of the past century are attributable.

BACTERIOLOGY IN MEDICINE.

The results of this cultivation of the scientific spirit are obvious in all departments of medicine, but nowhere more conspicuously than in the field of etiology. For years, while certain branches of medicine, more particularly surgery, were progressing, thanks to the introduction of anesthetics and what, in honor to the man, may be termed Listerism, clinical medicine seemed at a standstill. This was due to several reasons, but especially to our lack of knowledge of the etiology of disease. We were awaiting the new science of bacteriology—that science which during the past twenty years has added so much to our store of knowledge and been of such incalculable benefit to humanity. As a consequence of careful and minute investigations, patient research, and the replacement of empiricism by science, we now have satisfactory scientific evidence of the bacteriologic origin of many previousy obscure diseases, of which the following may be mentioned: anthrax, tuberculosis, relapsing fever, leprosy, actinomycosis, glanders, gonorrhea, typhoid fever, Malta fever, diphtheria, cholera, lupus, tetanus, influenza, plague, erysipelas, dysentery, pneumonia, cerebrospinal meningitis, the various septic infections, certain epidemics of meat poisoning, etc. We have been enabled to trace many hitherto inexplicable diseases—veritable scourges of mankind and the lower animals—to minute organisms; we have isolated and recognized the micro-organisms themselves and differentiated them from others which they resemble; of many of them we have already determined the life history; in many cases we have determined the manner whereby they gain access to the human body; we have ascertained how they exert their deleterious effects; in some cases also we have discovered the methods by which these effects may be neutralized and prevented. There is, however, much virgin soil yet to be tilled; more particularly have we yet many problems referring to the chemic and toxic products of these bacteria to solve. While the clinical evidence of the infectious nature of some other diseases is beyond dispute, their bacteriologic origin is still undetermined. Thus we await the demonstration of the bacterial nature of such diseases as smallpox, syphilis, soft chancre, measles, mumps, scarlet fever, typhus fever, yellow fever, rabies, pertussis, rheumatism, arthritis deformans, etc. The origin of certain of these diseases has already been ascribed to certain bacteria, but the evidence is yet inconclusive. There can, however, be no reasonable doubt that ere long the specific causative bacteria will be isolated, and this is all the more likely when we remember that although Villemin demonstrated conclusively the infectious nature of tuberculosis, by systematic inoculations in 1865, the specific bacterium was not isolated by Koch until 1882.

But it was not alone the lowest forms of vegetable life that were found to exert such a malign influence on human life. While these minute vegetable organisms were being isolated and studied, it was also ascertained that some of the lowest forms of animal life were equally portentous for evil. Thus the filaria was demonstrated as the cause of one of the hitherto obscure diseases of the tropics, and malaria was found to be due to a protozoon. And both of these organisms were found to infest the blood of their victim. Then the dependence of dysentery upon the ameba was ascertained and it was also demonstrated that this organism gaining access to the portal circulation is carried to the liver, where it gives rise to abscess formation. Thus was conclusively shown the dependence upon the same organism of two conditions so closely related clinically. It is, however, interesting in this connection to note the recent investigations of Shiga and Flexner, both of whom have been studying a bacillus that seems to be the cause of many cases of tropical dysentery. The most noteworthy investigations of recent date, however, are those that conclusively demonstrate the rôle of the mosquito in the propagation of malaria, and the still more recent experiments that seem to show that the same animal is concerned in the spread of yellow fever.

We must remember that although bacteria are essential to the production of certain diseases, the mere presence of bacteria is not competent to provoke the disease. The general economy is an extremely important factor that has to be reckoned with. The healthy body offers a greater or less resistance to the development of certain diseases, and this resistance differs in different individuals and in the same individual at different times. Thus the infections of various diseases, such as tuberculosis, diphtheria, scarlet fever, smallpox, rabies, etc., exerts a varying influence for evil depending upon whether the patient is naturally immune to the disease, or has been vaccinated, or has had the disease, or has received a dose of prophylactic serum. While there are many problems still to be unraveled, we are nevertheless beginning to understand something of the significance of hereditary predisposition and immunity; we are learning also the significance of shock, checked secretions, an initial chill, etc. We know that we are constantly surrounded by the specific germs of various diseases; in some instances these germs are introduced into and are harbored by the body. But such is the resistance of the healthy human organism to the deleterious tendencies of the micro-organisms that it is not until the bodily vigor is reduced or altered by exposure, indiscretions, fatigue, etc., that the bacteria are enabled to overcome the activities of the body that restrain them and, gaining access to the tissues, produce their evil effects. It is likely that the occurrence of this is sometimes manifested by a chill, etc.

It behooves us now to consider the bearing of these scientific investigations upon the practical aspects of medicine—upon the diagnosis, treatment, and prevention of disease. Of what value to us as practitioners of medicine have they become? Of what value to the individual and to the community at large has been the tracing a number of diseases to the activities of minute organisms?

DIAGNOSIS SCIENTIFIC.

The special object of the investigation of the etiology of disease is that disease in the individual may be recognized and cured if possible, and that the spread of the disease may be prevented. The diagnosis of disease is and always will remain an art, but it is becoming more and more scientific. It may be said that strictly speaking diagnosis is altogether a product of the nineteenth century. Prior to that time it was merely a matter of guess-work and was never definite. At the commencement of the nineteenth century, however, Louis inaugurated his methods of careful clinical investigations, and these amplified and extended have remained the guide of clinicians ever since. To Avenbrugger, Laennec, Skoda, and Corvisart we owe the perfection of methods of physical exploration, the common property of all physicians at the present time. It was, however, during the last quarter of the past century that the diagnosis of disease progressed by leaps and bounds. This was due entirely to the cultivation of the scientific spirit and the consequent employment of laboratory methods. Prior to this time, the careful clinical observation that had long been in vogue, the patient scrutiny devoted to the manifestations of disease, had led to the establishment of a nosology to which it is doubtful if any noteworthy additions would have been made but for the employment of laboratory methods.

In approaching a patient our aim should always be to make our diagnosis definite and exact. That this desideratum be attained our investigations must be thorough. We must inquire carefully and minutely into the influences of nativity, heredity, environment, habits of the patient, etc. We must secure an accurate account of the mode of onset and the manner of the evolution of the disease, and our examinations of the patient must be thorough, complete, and frequently repeated. In this connection I wish particularly to urge the importance of the cultivation of your powers of observation. It is well known that many of the physicians of bygone days owed their pre-eminence in the profession in large measure to the acuteness of their powers of observation and to the care and attention that they paid to little things—things that are likely to escape the observation of others less attentive. The same may be said of us at the present time; the more careful and painstaking we are the more likely we are to *attain* success. On the extreme value of methods of physical exploration, I need not dwell here.

The necessity for careful bedside observation has been recognized from time immemorial; it must always remain our mainstay. At the bedside we must prove or disprove our theories, and there the results of laboratory investigation must stand the test of practical utility. We must never permit our theories to displace the results of our careful bedside observation and experience; these must constitute our guide in practice. In this connection, however, I am reminded of the aphorism of Hippocrates: "Experience is fallacious and judgment difficult." In an endeavor, therefore, to assist, correct, modify and supply the deficiencies of the purely clinical method, I wish to ask your serious attention to the importance and utility of what have come to be known as laboratory methods of diagnosis. The one is not to supplant the other; but both are to be employed in conjunction. I would have you adopt the wise middle course; be neither carried away by the extravagant claims of those who would seem to have us place exclusive reliance upon the results of laboratory investigations, nor yet so narrow-minded as those who, in their ignorance and indolence, refuse to admit the utility of the laboratory.

In that the laboratory to-day is indispensable, permit me to refer briefly to certain aspects of laboratory diagnosis. I am confident that no one to-day alive to the duties and responsibilities of his trust as a physician is unprovided with a microscope and a few chemical reagents and neglects to examine carefully, both chemically and microscopically, the urine—shall I say of all his patients? Surely a patient has a right to expect that his nausea, his headache, his dimness of vision, his dyspnea, if due to a renal lesion, shall be recognized as such; and that if his attack of typhoid fever be complicated by nephritis that the latter shall be ascertained and properly treated. There are a few simple methods of analysis of the gastric contents that are readily mastered by any one having the inclination. And who will deny that a patient with carcinoma of the stomach or a benign stenosis of the pylorus and consequent dilatation of the stomach has not a right to expect that the condition shall be recognized at the earliest possible moment, to the end that he may enjoy the benefits of early and appropriate treatment? Then the examination of the blood is of extreme importance in the recognition of very many diseases—diseases not alone of the blood and blood-forming organs, but also of the most diverse disorders of the various organs and tissues. I will not state that it is essential to the recognition of all cases of chlorosis, but it is always confirmatory of the diagnosis and in many instances the diagnosis can not be made with certainty without it. How many young women to-day are being dosed with bitter tonics for a supposed gastric catarrh, or with aperients for constipation, or with various coal-tar products for headache, or with various preparations designed for the relief of amenorrhea, or with digitalis for supposed heart disease, when in reality they are suffering only with chlorosis, which an examination of the blood would disclose and the administration of iron would promptly cure? Again, my experience leads me irresistibly to the conclusion that diseases such as leukemia are never recognized except by those who make a practice of examining the blood. I have seen a number of patients believed by other physicians to be suffering with typhoid fever, when in reality they were ill with pneumonia, appendicitis with periappendicular suppuration, malignant endocarditis, acute lymphatic leukemia, and the like. The improbability of the presence of typhoid fever would have been evident immediately upon the examination of the blood, and as a matter of fact in some cases this was the first clue that led to the establishment of the correct diagnosis. I can not too strongly insist on the importance of the presence or absence of leukocytosis in the diagnosis and differential diagnosis of very many conditions, but time and space forbid multiplication of instances.

BACTERIOLOGIC METHODS IN CLINICAL MEDICINE.

Of the importance of bacteriologic methods in clinical medicine I need say but little. It would seem like resowing what I am sure must already be an extremely fertile land. I may mention, however, the Gruber-Widal test in the diagnosis of typhoid fever. This is one of the most highly prized adjuvants to our clinical armamentarium within recent years. It is of extreme importance in the recognition of typhoid fever, and is of especial value in doubtful cases, as it was in the cases to which I have just made allusion. But not only in typhoid fever is the test of signal value, but by means of the agglutination and immobilization of the specific bacteria, we are enabled to recognize Malta fever, relapsing fever, cholera, anthrax, tuberculosis, dysentery, plague, etc.

Need I mention the importance of an examination of the sputum in suspected cases of pulmonary tuberculosis? Need I refer to the importance of an early and exact diagnosis—importance alike to the patient, the family, and the community wherein he dwells? Here I might mention what I feel sure will be one of the developments in the near future. We will speak of a pneumococcic, staphylococcic, streptococcic, a Friedlaender bacillus, or an influenza bacillus, infection of the lungs, meninges, etc., as the case may be, rather than of a pneumonia, meningitis, etc. When we are able to recognize clinically the differences in these infections, we may perchance have at our disposal better therapeutic measures—specific remedies. Then will arise the necessity for the examination of the sputum in all cases of pulmonary disease, of the cerebrospinal fluid in all cases of involvement of the cerebrospinal coverings, etc. In passing it is worth while noting that some of the pulmonary complications of typhoid fever have already been traced to the typhoid bacillus.

Of the importance of a bacteriologic examination of the secretions of the throat in all cases of disease of the throat, more especially in cases suspected to be diphtheria, I will say nothing; this is too well and universally recognized to require reiteration on my part. Equally important is an examination of the urethral, vaginal, and uterine discharges, for the gonococcus; of the lochial discharges and uterine scrapings in postpartem infections, for the *staphylococcus*, *streptococcus*, etc.; of the urine and feces, for the tubercle bacillus, typhoid bacillus, cholera bacillus, and other organisms, etc. I may mention that in consequence of recent investigations it has been found that the urine as well as the feces contains the typhoid bacillus in a large percentage of cases of typhoid fever. This fact has been made use of in some cases for the purposes of diagnosis, but the especial practical inference is that the urine must be disinfected in all cases of the disease. Were I to mention other laboratory procedures of value in diagnosis, I might cite the bacteriologic examination of the blood in certain cases, the use of the tuberculin test, the mallein test, radiography, and to these I might add the ophthalmoscope, the laryngoscope, the sphygmograph, etc.

Such laboratory methods of diagnosis should be made use of in all cases in which they are likely to prove of the slightest utility. This strictly interpreted means practically all cases. In hospital work they should be employed as a matter of routine. The necessity of the times, however, is the more universal adoption by the general practitioner of these various aids in clinical diagnosis. This is indicated alike in the interests of the physician, the patient, and the general community. It is to the interest of the physician that he may establish the correct diagnosis at the earliest possible moment, institute the appropriate therapy, and enjoy the mental satisfaction pertaining to work well done; to the patient, that he may reap the personal benefit of the early diagnosis and appropriate treatment; to the community, that in the case of certain infectious diseases the sick man may not prove a source of general infection. I am aware that these procedures add to the already heavy burden of the general practitioner, but they may be mastered by any one having the inclination. In the city as well as in the country a corner of the office may be made to do duty for a laboratory. If the practitioner be too busy to attend to the work himself, he ought to be able to find some one capable of doing it for him. Surely the patient in the country as well as in the city has a right to expect an intelligent interpretation of his symptoms, and in some cases this is not possible without the aid of laboratory methods. Thanks to an enlightened public spirit, in many parts of the country such examinations are made for the physician by the laboratory of the city, county, or state board of health. Thus there is really no excuse for their omission. What I do insist upon, however, is that the physician, be he in the country or the city, in case he feels neither competent nor inclined to make these examinations himself, should at least know when they should be made; and knowing that they should be employed in a certain case, he should see to it that they are made by some one who is competent. There was a time when there was no stethoscope, no microscope, and no clinical thermometer, and doubtless the physicians of those times felt their increasing burdens as each was added to their necessary armamentarium. Each, however, has abundantly proved its necessity, and the same will some day be said of the so-called laboratory methods of diagnosis.

Heretofore diagnosis has concerned itself solely with the detection, proper grouping, and discrimination of symptoms. Now, however, we are commencing to penetrate deeper; we are endeavoring to fathom, and in some cases we have already ascertained, the ultimate causes and nature of diseased processes. Until within a short time our studies were largely confined to the changes occurring in the tissues in disease; now we are learning something of the causes and the manner of the production of these changes. Upon the discovery of bacteria as the causative factors of some diseases, it was considered that they wrought their alterations by inducing asphyxia and consequent necrosis of the tissues by mechanic occlusion of the blood-vessels; later it was thought that they induced changes in the tissues by appropriating to themselves pabulum designed for the nutriment of the tissues. It is still probable that in some cases these are correct interpretations of the phenomena; but we know, however, that in the majority of cases bacteria produce their injurious effects by reason of the poisons they elaborate. Concerning the exact nature of these poisons we still await positive information; and here is a fertile field for investigation. Some of these poisons, however, have already been determined to be allied to the alkaloids; others resemble modified proteids, and have in consequence been spoken of as toxalbumins; of the nature of others, we know little or nothing.

SELECTIVE ACTION OF TOXINS.

The definite scientific demonstration of the toxic nature of many infectious diseases has resulted in the shedding of diffuse light upon many hitherto obscure problems. I wish here to refer briefly to but one interesting aspect of the question—the selective action of these toxins. It has been demonstrated that the general symptoms of many diseases may be reproduced with extreme accuracy by the introduction into the body of toxins of bacteria—of the toxins freed from the bacteria, or of the toxins in a mixture with dead bacteria. In the selective action of these toxins we find a rational explanation of many of the phenomena of the different diseases. Thus the toxins of the diphtheria, tetanus, and influenza bacilli have a special affinity for the nervous system. That of diphtheria, however, is especially prone to attack the peripheral neuron, especially that supplying the muscles of the throat, internal muscles of the eye, and the heart; that of tetanus implicates especially the higher nerve centers; that of influenza exerts its influence more especially upon the meninges with resultant evidences of cerebrospinal meningitis. Analogy is found in the special affinity of other poisons for various tissues and organs. Thus tobacco exerts its action especially on the heart; alcohol is especially prone to produce paralysis of the extensor muscles of the leg; lead most frequently causes paralysis of the extensor muscles of the wrist and fingers; arsenic is a common cause of peripheral neuritis; and the venom of serpents seems to possess a special faculty for producing hemorrhagic nephritis. Further analogy is found in the special affinity of certain tissues, such as muscle, nerve, elastic tissue, etc., for different stains.

INTERNAL SECRETIONS.

I must here mention, also briefly, another result of the cultivation of the scientific spirit in medicine—the establishment of the doctrine of internal secretions. There are in the body certain tissues called glands, of which the functions until recently were absolutely unknown. Recently it has been shown that many of these possess internal secretions which exert powerful influence not alone in the development of the body and the preservation of health, but the perversion or cessation of which is extremely potent in the causation of disease. The organs to which, with more or less reason, we at present attribute an internal secretion are the thyroid, thymus, adrenal, pituitary, pineal, spleen, pancreas, testicle, ovary, mammary gland and bone-marrow. It will be observed that some of these are possessed of a duct and have an external secretion, whereas others have no duct and have no external secretion. In consequence of strictly scientific investigations we now know that several hitherto obscure symptom-complexes are due to perversion or cessation of the function of one or the other of these organs. One of the most brilliant pages of the history of recent medicine is that which records the investigations concerning the thyroid gland. To the perversion or cessation of the function of this organ we now know is due the disease myxedema. This is a condition first noted by Gull, but later accurately described by Ord, who, attributing it to disorder of the thyroid, gave it the name by which it is now known. Subsequently the condition was produced accidentally by Kocher, by the extirpation of the gland, and later experimentally in the lower animals by the same means. Finally Murray suggested the internal administration of the gland for the cure of the condition with results brilliant beyond expectation. The same excellent results have since been achieved in the treatment of sporadic cretinism, and we know, in addition, that the extract of the gland is an excellent remedy in the treatment of many cases of obesity. To the perversion or cessation of the function of the adrenal is due Addison's disease, and to that of the pancreas certain cases of diabetes. Though we may hope for it in the future, we have as yet no means of successfully combating either of these diseases. Regarding the functions of the other organs mentioned, we have as yet no definite information. It has been thought, however, that the internal secretion of the testicle and ovary are answerable for the production and maintenance of the masculine and feminine characteristics respectively; that the pituitary and pineal glands are concerned in the development and preservation of symmetry of the body, and that the perversion of their function results in certain forms of giantism and acromegalous disease; and, finally, that the thymus may be in some remote way connected with certain hemorrhagic tendencies. Though much has been learned, much remains to be ascertained; but confidence born of achievements in the past leads us to hope for developments in the future, the nature and range of which it is difficult to prognosticate.

PROPHYLAXIS AND TREATMENT.

In conclusion, I must say a word concerning prophylaxis and the treatment of disease. Regarding the former, I will only say briefly that upon the doctrine of the bacterial origin of disease is founded the modern conception and practice of sanitary science. This which in many respects has already developed to the dignity of a specialty, has resulted not only in promoting the welfare of the community and the prolongation of the life of the individual, but it has saved humanity from many epidemics—from an almost incalculable amount of sickness and very high mortality. I need but refer to the recent occurrence of the plague in New York, San Francisco, and Glasgow. It is certain that but for the developments of preventive medicine the few cases in each city would have resulted in widespread epidemics. The prophylactic treatment of tuberculosis —the modern crusade against tuberculosis—is also one of the most encouraging signs of the times. Of other diseases, the ravages of which modern preventive medicine has curbed in large measure, I might mention typhus fever, typhoid fever, cholera, smallpox, venereal diseases, etc. The future seems to promise that soon that ancient and ubiquitous disease, malaria, will be throttled at its fountain source—the mosquito.

With regard to therapeutics and the practical care of disease, it is certain that the scientific researches of recent years have taught us much. While it must be admitted that the administration of a large proportion of our therapeutic measures is still founded upon empiricism, and that many of our drugs are given with a view to the relief of symptoms and the amelioration of the effects of disease rather than a destruction of their causes, our empiricism is a rational one. In contradistinction to that of former ages it is founded upon common sense, and from it, as have other sciences from their empiricism, we are gradualy deducing many scientific facts. Of late years, as a result of scientific investigation, we have learned the true value of drugs and their limitations. We have come to employ fewer drugs and less complex prescriptions. We no longer consider it necessary to nauseate our patients with shotgun prescriptions in the hope that at least one of the ingredients will possess a special affinity for the diseased spot. We have ascertained that in reality drugs play a not conspicuous part in the cure of disease, that their especial office rightly performed is to assist and guide nature in her efforts to effect a cure, rather than to attempt to abort a disease which in many instances run a definite and self-limited course.

The physiologic action of each drug having now been worked out scientifically in the laboratory and at the bedside, when in the presence of disease we note an indication for its employment, we administer it confident of its action in accordance with well-established precedent. This is in many respects purely symptomatic treatment. An intelligent symptomatic treatment, though by no means ideal therapy, is not to be disdained. In many instances it is not only the only form of treatment at our disposal, but it is really founded upon a scientific basis. Thus, for instance, if we know that the symptoms of a disease are due to a lack of bone salts, or of iron, or of thyroid secretion, we supply the deficiency with the proper remedy as the case may be; if due to the presence in the body of excrementitious products that should be removed by a diseased organ no longer capable of normal functional activity, we facilitate its elimination by stimulating the other emunctories; if due to a poison introduced from without, we neutralize it within the body or we hasten its removal through the appropriate channels. On the other hand, we are beginning to understand in some degree the mode of action of certain more or less specific remedies the discovery of whose good effects was purely a matter of chance. Of these I might mention quinin in malaria, salicylates in rheumatism, mercury and the iodids in syphilis, the iodids in actinomycosis, the bromids in epilepsy, etc. Of the mode of operation of some of them we, however, as yet know very little.

We have also come to appreciate at their true value certain remedial measures other than drugs. Thus we know that the most important part of the treatment of tuberculosis is an abundance of fresh air and good, nutritious food; we are aware of the value of systematic rest, massage, and electricity in certain nervous disorders, and of the importance of hydrotherapy in various diseases of the nervous as well as of other systems; we know that many affections of the heart are greatly benefited by systematic exercises and baths; and above all we appreciate the paramount importance of regulation of diet in almost all cases of disease. Then we bear in mind the recuperative effects of sleep, and we should remember that physiologic rest of a disordered organ is a great restorer of health.

SERUMTHERAPY.

My last theme is serumtherapy, which may be looked upon as the crowning glory of the cultivation of the scientific spirit of the nineteenth century. Without attempting any discussion of this exceedingly interesting subject, I may allude to the fact that the use of antiserums in diphtheria and relapsing fever has been markedly efficient; in tetanus, hydrophobia, and snake bite they have been less efficient though very good; whereas in pneumonia, erysipelas, septicemia, tuberculosis, dysentery, they have proved rather indifferent, though on the whole promising. But not only in the treatment of disease, but likewise in the prevention, have these serums proved of value. The use of antitoxin in the prophylaxis of diphtheria is now a well-established mode of procedure. Preventive inoculations have also been employed with more or less success in plague, typhoid fever, dysentery, cholera, etc.

It is impossible to foretell what will be the developments in this branch of medicine. That brilliant discoveries are yet to be made can not be doubted; that there will occur improvements in the methods of preparation and administration of those serums that we at present possess is equally certain. That we may yet have a means of curing smallpox as we have of preventing it is to be hoped. That we may prevent and cure yellow fever as well as a common cold are not without the bounds of probability. The past is full of encouragement; the future full of hope.

Original Articles.

THE PRESENT STATUS OF SPINAL SURGERY.*

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In considering the subject of the surgery of the spine, it must be remembered that when I wrote my former papers, in 1891 and 1892, certain propositions were still debatable which have now been distinctly settled, so that we are able to reach much more definite conclusions. In my paper on "Laminectomy for Pott's Disease with Paraplegia," after tabulating 75 cases, I said that personally I could not see any very brilliant future for it. It can be applicable to less than 50 per cent of the cases of Pott's disease, as proved by the statistics of Gibney and Myers, and even in this small number its application is limited again to those cases where the compression has not produced a complete degeneration of the cord. Still, it is not by any means to be relegated to the obsolete class of operations. It has a place, and that place, I am convinced, is destined to play a more important part in the therapeutics of Pott's disease than it has heretofore.

Since then I have operated on 15 patients, all of them unfortunately in advanced stages of tubercular disease. Chipault succeeded in tabulating 101 cases, and I have succeeded, including my own, in tabulating 154.

Although only two of mine were ultimately successful they proved that the operation per se is not dangerous. Not a single patient has died from the effects of interference with the vertebral column, but in every instance death occurred, at a considerable period after the operative measures, from an advancement of the tubercular disease. There would be more hope for these patients could we see them earlier, before general tuberculosis has intervened, or before the pressure upon the spinal cord has produced degenerations which are irremediable by operative or other means. Unfortunately mechanical treatment is persisted in until all chance for the success of operative interference has passed, and until either the septic condition is so grave or the tubercular lesions have extended so far into other structures that the condition of the patient almost contraindicates any operative procedure. In cases far advanced in Pott's disease, with long-continued pressure or with tubercular lesions in other parts of the body, or with a general and advanced sepsis, the operation can be of very little benefit.

In the other cases, those for instance where the tubercular lesion is distinctly in the posterior portion of the spine, where an abscess has formed, the other organs still being uninvolved, and where it is possible by following up this abscess by careful surgical dissection, provided the undertaking can be done earlier in the disease, we may hope for a better result.

I can not at the present time change the position which I took in 1891, when I said that it is unnecessary to say that no surgeon would undertake an operation of this magnitude where there was any chance of recovery by other means, but there still remains a considerable number of cases that occupy debatable ground, where the chances of recovery without operation are very slight, where continued mechanical treatment yields little or no result, and where an extension of the disease may render the patient hopeless if it does not destroy life. Such patients had better be operated on.

Then, too, there is another class of cases which show only progression of the disease in spite of all care, and where a degeneration is set up threatening the integrity of the cord. These should undoubtedly be operated on and early. The operation should not be undertaken while there are any good chances for recovery without such interference, but should not be postponed so long that an ascending or descending myelitis may destroy the chances of recovery; and the first sign of degeneration of the cord should indicate immediate operation.

Cases of posterior spinal involvement with paraplegia should be operated on, for here the lesion is easily reached. The removal of the involved laminæ and the clearing up of secondary deposits in the bodies or articular processes, or the proper removal of plastic exudation along the cord will place the patient in a far better position than he can be if only mechanical measures are depended on.

If we can prove that the mortality in these cases is small, and that the patients improve after the pressure has been removed, we may then undertake it with considerable confidence; as I have already said, none of my fifteen has died from the effects of the operation. Naturally the region of involvement makes a difference. The same conditions are noted in Pott's disease that are present in laminectomy for other conditions, viz., that the cervical is the least satisfactory, the dorsal the next and the lumbar and sacral regions the best for operative interference. In all of my operative cases for this condition I was surprised to find that the cause of the pressure was usually due to the tubercular debris and granular tissue rather than to any bony pressure, and as this was gradual in its inception, although the paraplegia may have been sudden, the pressure on the cord was seldom very intense, while in frequent instances there was more or less recovery of function. We must still confess, however, in spite of all that has been said on this question, that it will seldom be successful and very seldom indicated. This is due to the fact that in nearly all instances we find that by the time paraplegia has developed there are secondary tubercular deposit that must eventually destroy the patient's life and consequently contraindicate operative interference.

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We have now succeeded in tabulating 154 cases, double the number upon which my former table was based. Of this number, 128 are sufficiently complete to be included in the statistical results. The total number of deaths occurring as the result, or near enough to the time of the operation to be attributable to it, was 21, or 16.45 per cent. The total number of recoveries was 37 or 28 per cent.; of improvement, 16 or 12.5 per cent.; of unimproved, 18 or 14.06 per cent.; or subsequent deaths, 36 or 28.2 per cent.; total, 128 or 100.2 per cent.

In the tabulation of the subsequent deaths I have been perhaps unnecessarily strict. Many who have shown a recovery from the paraplegia or very decided improvement are included in this list. My reason for this is that in the majority of instances these patients died of sepsis or of pulmonary tuberculosis and should not be included if we accept the theory that those patients with advanced sepsis or tubercular disease in other regions than the spine, or with advanced disease of other viscera should not be operated on. They have, therefore, not been counted in the list of recoveries, improvements or non-improvements, but have ruthlessly been classed among the subsequent deaths. One can not but be impressed with the percentage of mortality and recovery when it is considered that these patients are almost without exception in wretched physical condition when the operation is performed. It is also perfectly evident that if the mechanical treatment is stopped as soon as it is evident that the disease is not arrested by it, and before marked sepsis, cystitis or destruction of the cord supervene, the result of the operation must be much improved.

It is also exceedingly important to consider the region involved. Thus we find that in the cervical region, of 18 patients, 5 died immediately following the operation, while an equal number recovered. Only 3 were improved; 1 was not improved and 4 died subsequently. At least 2 of the immediate deaths were the result of hemorrhage following wounding of the vertebral artery when the transverse process and the vertebral foramen were involved. This must, therefore, be carefully considered in operations in this region, as well as paralysis of the phrenics which follows manipulation of the cord in the region of the third or fourth cervical vertebræ.

In the dorsal region, as we should expect, the conditions are somewhat improved. Here we have by far the largest number of cases—103. Of these, 16 died from the effects of operation, 15.54 per cent., as against 27.77 per cent. in the cervical region; 29 recovered, 28.15 per cent., as against 27.77 per cent. in the cervical. The ratio of difference, it will be noticed, is exceedingly slight. Dorsal improvement is 10.67 per cent., as against 16.66 per cent. in the cervical. This is in favor of the cervical region. There was no improvement in 5.55 per cent. in the cerical region, and in 15.54 per cent. in the dorsal, while the percentage of subsequent deaths was 22.22 per cent. in the cervical and 30.09 per cent. in the dorsal. The chief difference, therefore, seems to be in the ratio of deaths, and if care is taken to protect the vertebral artery and the origin of the phrenic nerves in the cervical region, its results should compare much more favorably with those of the dorsal region. There are too few cases in the lumbar region to serve as a basis of comparison.[1]

TABLES OF CASES OF POTT'S PARAPLEGIA.

Case 76.—Operator, Kraus; 1886. Dorsal region; duration, long time; male, 29; motor and sensory paraplegia, vesical and rectal paresis; resection 10-11 D. arches, carious; no improvement; died in 10 weeks. Reference: Paillard Inaugural Dissertation; Wurtzburg, 1890, p. 62.

Case 77.—Operator, Schoenborn; 1887. Cervical region; duration, 2 years; male, 18; paraplegia below neck, inferior cervical kyphosis, anesthesia complete up to false ribs; third and fourth arches removed, fourth arch gave hemorrhage from vertebral artery; death from hemorrhage in 15 minutes. Reference: Ibid.

Case 78.—Operator, Richardson; 1889. Cervical region; duration 1 year; male, 22; tumor of neck, paraplegia and slight respiratory trouble; removal of fifth lamina, nothing discovered; respiration difficult; atropin; sensibility markedly improved; died fourth day from asphyxia; carious fourth and fifth cervical vertebræ, bony point pressing cord completely softened. Reference: Brooklyn Med. Jour., 1889, i, 401.

Case 79.—Operator, Lorenz; 1889. Dorsal region; duration, 2 years; infant; dorsal kyphosis, motor and sensory paraplegia, vesical and rectal paralysis; resection fifth, sixth and seventh dorsal arches; no improvement. Reference: Wiener Klinik, 1889, p. 127, Case 164.

Case 80.—Operator, Gerster; 1889. Premeningeal suppurating fungosities; rapid improvement; recovery. Reference: N. Y. Med. Jour., 1890, p. 31.

Case 81.—Operator, Davies Colley; 1890. Dorsal region; duration, 4 years; female, 4: paraplegia complete; removal second, third, fourth and fifth dorsal arches. Improved in one week; cured in four months. Reference: Chipault, Studies of Spinal Surgery; Obs. 63 and 65.

Case 82.—Operator, McCosh, Starr, 1894. Dorsal region; partial anesthesia to touch, temperature and pain in legs, and loss of motion; tenth and eleventh dorsal laminæ removed; later, sixth, seventh and eighth dorsal, caries of bodies of vertebræ; discharging sinus; death 4 months later. Reference: Am. Jour. Med. Science, vol. cix, p. 95.

Case 83.—Operator, Wheaton; 1890. Dorsal region; male, 24; motor paraplegia; resection sixth, seventh, eighth, ninth and tenth laminæ, cord appeared pressed backward; improvement, then collapse and death; post-mortem: fungus mass involving the anterior nerve roots. Reference: N. W. Lancet, 1890, p. 288.

Case 84.—Operator, Eiselberg; 1890. Complete paraplegia: trephine; all vertebral muscles involved in tubercular processes: death. Reference: Wiener Med. Woch., 1890, col. 2219.

Case 85.—Operator, Eiselberg; 1890. Paraplegia and vesical paralysis; extirpation large fungous mass; death. Reference: Ibid.

Case 86.—Operator, Eiselberg; 1890. Cervico-dorsal region, paralysis upper extremities; at first improvement; recurrence in 6 months. Reference: Ibid.

Case 87.—Operator, Eiselberg; 1890. Dorsal region; aged 10 years; complete paraplegia, cervical paralysis; removal of eighth and tenth dorsal arches: eight days later fungous mass of pachymeningitis; recovery in 10 months. Reference: Ibid.

Case 88.—Operator, Eiselberg; 1890. Cervical region; cervical kyphosis, subclavicular abscess, partial paralysis of right arm; resection third, fourth and fifth cervical spinous processes; rapid recovery. Reference: Ibid.

Case 89.—Operator, Delorme, 1892. Dorsal region; duration 11 months; male; progressive paraplegia, bladder and rectal symptoms, kyphosis; laminectomy: improvement, complete return of sensation, but not motion; sudden paraplegia, death from exhaustion: post-mortem, tuberculosis of bodies, no pulmonary or urinary lesions. Reference: Chipault, op. cit., p. 276.

Case 90.—Operator, Gross; 1891. Dorsal region; duration, 1 year; female, 14; paraplegia, exaggerated reflexes, dorsal kyphosis, anesthesia, paralysis rectum and bladder: removal third, fourth, fifth and sixth laminæ; caseous matter size of nut pressing upon cord: improvement at first, increase in pulmonary tuberculosis: result, no improvement. Reference: Ibid., p. 259.

Case 91.—Operator, Jalaquier; 1890. Cervico-dorsal region: duration, 7 months; male, 13½ years; complete paraplegia, rectovesical paralysis, anesthesia; resection seventh C. and first D. laminæ: great hemorrhage; improvement in motion during first few days, then disappeared; result, no improvement. Reference: Ibid., p. 262.

Case 92.—Operator, Pique; 1891. Dorso-lumbar region: duration, 9 months; male, 26; complete paraplegia, reflexes exaggerated, anesthesia, paralysis of rectum and bladder: tenth D. and second L. arches removed, pus and caseous material pressing cord: tubercular meningitis; death twelfth day. Reference: Ibid., p. 272.

Case 93.—Operator, Gardner; 1891. Duration, long time: female; paraplegia: removed two arches: pus and sequestra escaped from bodies: after some days slight return of motion: improvement. Reference: Australia Med. Jour., 1893, p. 121.

Case 94.—Operator, Jones; 1891. Dorsal region; duration, 5 years; female, 31: complete paraplegia, anesthesia, dorsal kyphosis: removed arches eighth and ninth D., seventh displaced backward, soft membrane covering cord; improvement. Reference: Med. Record, 1892, p. 290.

Case 95.—Operator, Boiffin; 1891. Cervical region; duration, 9 months: male, 17: exaggerated reflexes, head movements difficult: removed third, fourth and fifth C. arches, dura normal; improvement. Reference: Bull. Chir., 1892, p. 157, Case 2.

Case 96.—Operator, Urban: 1891-92. Dorsal region; duration, 4 years; female, 19; paraplegia, kyphosis, 5-12 dorsal; temporary resection fifth, sixth, seventh, eighth, ninth and tenth arches; cord compressed at seventh, no pulsation below; death third day from syncope. Reference: Verhand. d. Deutschen Gesell. f. Chir., 1892, p. 211.

Case 97.—Operator, Urban. Dorsal region; duration, 9 months; female, 54: pain in back, paralysis, atrophy of lower limbs and trunk, sensibility to pressure at eighth spinous process: resection third, fourth, fifth, sixth, seventh, eighth, ninth, temporary: cord compressed at eighth, no pulsation below, pulsation did not return till resection of angle of body; death from syncope. Reference: Ibid., p. 216.

Case 98.—Operator, Guelliot et Moret; 1892. Dorsal region: duration, 1 year; female, 37: complete paraplegia, reflexes normal: resection twelfth dorsal arch, caseous material compressing cord: marked improvement. Reference: Union Medicale du Nord Est, 1891, p. 361.

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[1] For the first seventy-five cases on which these statistics are based, see "Laminectomy for Pott's Paraplegia," by Samuel Lloyd, Annals of Surgery, October, 1892. I wish to acknowledge my indebtedness for valuable aid in the preparation of these tables to F. T. Zabriskie, M.D., and to Messrs. E. D. B. Loughran and L. D. Mead.

Case 99.—Operator, Chipault; 1890. Dorsal region; duration, some months; female, 4; abscess superior dorsal region communicating with medullary canal, recession of left eyeball, ptosis; artic. process left and arch of first D. bare and rough, post-tubercular meningitis, large mass of fungous material; next day eye symptoms improved and in two days disappeared; recovery. Reference: Chipault, op. cit., p. 245.

Case 100.—Operator, Roux: 1890. Dorsal region; duration, 1 month; male, 16; partial paralysis of right leg, slight anesthesia below second lumbar vertebra; removal of fifth and sixth arches, pressure by vertebral body; increased paraplegia to complete motor, sensory, rectal and bladder paralysis, wound suppurated; no improvement. Reference: Ibid., p. 246.

Case 101.—Operator, Roux; 1890. Dorsal region; duration, 3 months; aged 9½ years; complete paraplegia, rectal and bladder symptoms, fluctuating tumor between fifth and sixth dorsal; removal of fourth and fifth arches, granulation tissue in canal; slight improvement. Reference: Ibid., p. 265.

Case 102.—Operator, Roux; 1891. Dorsal region; duration, 2 years; male, 21; complete paraplegia, rectal and vesical paralysis, no anesthesia, reflexes normal; great hemorrhage, removal 7-8 D. laminæ, pus right side of vertebræ from body of 8th; recovery; death from pulmonary tuberculosis one year later. Reference: Ibid., p. 264.

Case 103.—Operator, Zavaleta. Dorso-lumbar region; duration, 4 months; male, 30 months; some paralysis of lower limbs, reflexes normal, no bladder or rectal symptoms, kyphosis 11th D. to 3rd L.; resection 12th D. and 1st L., dura much involved, tubercular granulatións in canal, caries; recovery in two years. Reference: Ibid., p. 273.

Case 104.—Operators, Zavaleta and Masi; 1892. Dorsal region; duration 1 year; male, 29; sensory-motor paráplegia, vesical and rectal paralysis; resection 7th, 8th, 9th D., no pulsation in dura, pressure due to fungous mass at 8th vertebra, also some sequestra; improvement at first, suppuration and death one month later from suppurative meningitis. Reference: Ibid., p. 274.

Case 105.—Operators, Zavaleta and Ferrari, 1892. Dorso-lumbar region; duration, 3 months; male, 5½; kyphosis 11th D. to 1st L., ilio-femoral abscess, reflexes exaggerated, no paralysis of rectum or bladder; resection 11-12 D. 1st L., compression of cord by tubercular mass, carious body 1st lumbar, sequestra; suppurative meningitis; death. Reference: Ibid., p. 275.

Case 106.—Operators, Zavaleta and Masi. Dorsal region; duration, 9 months; male, 3; paraplegia without pain, kyphosis; 7th, 8th, 9th dorsal arches removed, curettage of bodies; pulmonary edema following general sepsis some weeks later; death. Reference: Ibid.

Case 107.—Operator, Reclus; 1882. Lumbar region; female, 22 months; fluctuating abscess of lumbar region extending to iliac fossa; opening, 3 fractured vertebræ found, small deposits found in a fungous mass, muscles of iliac fossa surrounded by tubercular processes; fistula remained for 6 months; improvement. Reference: Ibid.

Case 108.—Operator, Reynier; 1882. Dorsal region; female, 30; fistulous tract at 8-9 D. leading to column; incision, resection of laminæ 8-9 D., removal of tuberculous material; wound closed; recovery. Reference: Ibid.

Case 109.—Operator, Ollier; 1891. Sacrococcygeal region; male, 21; pain over coccyx in early life, abscess over sacrum for two years, bone exposed; extirpation of coccyx and posterior wall of sacrum and its lower pieces. Reference: Ibid.

Case 110.—Operator, Mayer; 1846. Dorsal region; duration, 6 months; female, 28; accident followed by dorsal gibbosity, later complete paraplegia; arch of 7th D. removed and showed marks of compression; recovery of sensation followed by hyperesthesia, convulsive movements; death on 21st day. Reference: Ibid.

Case 111.—Operator, Maisoneuve, 1860. Lumbar region; male adult; complete paraplegia; resection of several lumbar arches; no improvement. Reference: Ibid.

Case 112.—Operator, Ollier; 1882. Dorso-lumbar region; duration, 5 months; female, 18; weakness of legs and lessened sensibility, four abscesses in dorsal and lumbar region; incision of dorsal abscess, removal of 7th arch and surrounding tubercular processes, incision lumbar abscess, resection 11th and 12th D., 1st and 2d L., tuberculous process removed; immediate disappearance of all pain, improvement, 3 months later fistula, 6 months later another abscess, 9 months later death, pulmonary tuberculosis. Reference: Ibid.

Case 113.—Operator, Fornari; 1883. Dorsal region; female, 20; abscess near 7th and 8th dorsal vertebræ; operation by incision and resection of 7th and 8th arches; diffuse spinal pachymeningitis; death 20 hours later. Reference: Raccoglitore Medico, 1884, vol. i, p. 401, Chipault.

Case 114.—Operator, Southam; 1889-90. Cervical and dorsal regions; duration 1 year; female, 3½; complete paralysis of all extremities; exaggerated reflexes and painful breathing; resection 6th and 7th cervical arches, removed growths, dura not pulsating; three months later resected 4th and 5th cervical and 1st dorsal; improvement after first operation slight; more marked after second: ninth month voluntary motion improved, and in 1892 could walk. Reference: Ibid.

Case 115.—Operator, Southam. Dorsal region; female, 5; dorsal caries, complete motor paraplegia, incomplete sensation; resection 3d, 4th, 5th D. arches, some pus from corresponding vertebræ, no pulsation of cord: no improvement: death 9th day from pneumonia: Reference: London Lancet, 1890, vol. ii, p. 1300.

Case 116.—Operator, Cotterell; 1895. Cervical region: duration, old: female, 13; Pupils dilated, paralysis of right arm, scar on neck from removal of glands 5 years before, projection forward of cervical vertebræ felt through pharynx, head fixed, gradually lost power over left arm and both legs: laminæ and spines of 4th, 5th and 6th C. vertebræ removed: dura bulged slightly: no evidences of dead bone found: skin and muscles sutured, wound closed by first intention; 2nd day, moved left hand; 6th day, moved left hand and arm; 9th day, moved right hand; 14th day, moved right arm above head; 3 months later, complete power over extremities and sensation returned: stiffness of neck removed under massage: complete recovery. Reference: London Lancet, 1896, I, p. 844.

Case 117.—Operator, E. Percy Paton: 1895. Dorsal region: duration, 6 months: male, 8½. First noticed weakness in left leg, causing limping, later appeared in both: angular curve in lower dorsal region: thighs flexed so as to touch abdomen; loss of sensation: knee-jerks active, micturition and defecation normal; later all reflexes disappeared and loss of power over bladder and bowels; temperature very irregular, but no sign of suppuration. Vertical incision made over 7th, 8th and 9th D. spines; bleeding controlled with sponges; 7th and 8th laminæ removed; dura covered with layer of granular tissue; pus and caseous material discharged; closed with deep and superficial sutures and small drain left. Rallied from operation; temperature better, general condition improved; only partial improvement in the paralysis: control over micturition and defecation; 3 months later abscess involving left hip joint, most of head of femur gone, caseous material and pus removed; death 11 months after operation. Autopsy: Only region of laminectomy examined; gap where laminæ were removed much narrowed, filled with a tough, fibrous tissue; diseased foci found in bodies of several vertebræ. Reference: Ibid., p. 1351.

Case 118.—Operator, Arthur Neve; 1888. Dorsal region; duration, 6 months; female, 18. Dorsal curvature and paraplegia; both legs much wasted and no voluntary movement; sensations of heat, cold and pain in both legs; general condition good. Removal of 8th and 9th laminæ; dura healthy and pulsated; wound closed by primary union. Increased pain at first; in 3 days could move left leg slightly. Result: No improvement; discharged one month after operation. Reference: Ibid., p. 1062.

Case 119.—Operator, Arthur Neve; 1895. Lumbar region; duration, 2 years; male, 7. Complete motor and sensory paralysis; slight improvement with extension. Laminæ of 5th and 6th L. removed, dura healthy and cord pulsated; respiration became embarrassed; iodoform dusted in and wound closed without drain; healed; 10 days later wound opened and 1 ounce of pus escaped; sensation and muscular power completely regained in 6 months, but patient was much emaciated; complete recovery. Reference: Ibid.

Case 120.—Operator, T. Sinclair Kirk; 1895. Dorsal region; duration, 1 or 2 years; female, 5½. Dorsal curvature, complete anesthesia of lower part of body and legs, bowel and bladder symptoms, had diarrhea, general emaciation. Menard's operation; incision 4 inches long, int. to tips of trans. processes on left side; 4th and 5th trans. proc., at junction with lamina and pedicle, artic., with ribs and portion of ribs laid bare; transverse processes removed, ribs cut and head and neck removed; diseases parts of bodies, i. e., cavity corresponded t obody of 5th and part of 4th D.; pleura punctured, but no harm done; wound closed. Two days after operation bowels improved; 4 days after, reflexes and sensation; 7 days after, wound healed; 10 days after, analgesia gone; 16 days after, muscular power returned; great improvement; complete return of sensation and muscular power, but curvature remained. Reference: British Medical Journal, 1896, ii, p. 1442.

Case 121.—Operator, Halley, 1895. Dorsal region; duration two years; male, 27. Angular curvature at 5th and 6th D.: motor paralysis of lower extremities: no bladder or bowel symptoms. Removed laminæ of 5th and 6th D.; 4 weeks later, 7th and 8th. Wound healed by first intention, paralysis entirely gone in 10 days; recurrence and second operation; complete recovery. Reference: Jour. of Nerv. and Mental Diseases, 1896, vol. xxiii, p. 770.

Case 122.—Operator, Alfred Parkin; 1893. Dorsal region; duration, 6 months; male, 8. Partial paraplegia, partial bladder and bowel symptoms; extension unsuccessful. Removal of 6th to 9th D. laminæ; cord flattened, but pulsating; caseous mass anterior to the cord and much dead bone removed; wound closed and drain left in; spine fixed by means of plaster jacket. Three days after operation, knee jerk on right side; 8 days after, on both sides: 3 months after, sat up in bed; general health good; deformity remains; complete recovery. Reference: Brit. Med. Jour., 1893, i, p. 796.

Case 123.—Operator, Alfred Parkin; 1893. Cervical region; duration, 6 years; male, 9. Partial paraplegia, knee-jerks and ankle clonus absent; 6th and 7th C. spines prominent; extension followed by complete paraplegia; diaphragm did not act in respiration. Sixth C. spine and lamina removed and cord exposed, 4th and 5th reduced to mass of connective tissue; all compression removed, followed by pulsation; diaphragm commenced to act. Day after operation rigidity of limbs less, knee-jerks returned, abdomen moved in respiration; wound healed quickly, all symptoms gone in 2 months. Complete recovery, but death from tubercular meningitis. Autopsy: Caseating glands found in front of bodies of 3rd, 4th and 5th vert.; cord normal; brain showed usual appearance of tubercular meningitis. Reference: Ibid., 1894, ii, p. 699.

Case 124.—Operator, Alfred Parkin, 1893. Dorsal region; duration, 3 years; female, 8. Kyphosis, lordosis in lumbar region, advanced scoliosis, dorsal and lumbar spines convex to right, head and cervical part to left; rigidity of legs, knee-jerks feeble, sensation unimpaired; extension increased trouble. Spines and laminæ of 10th, 11th and 12th D. cut away and caseous material in front of cord removed. Next day knee-jerks returned, rigidity of legs less marked; wound healed leaving small sinus for one month; general condition good; later developed psoas abscess; recovery. Reference: Ibid.

Case 125.—Operator, Alfred Parkin; 1893. Dorsal region; duration six months; male, 10. Both legs rigid, reflexes present, complete anesthesia and analgesia up to the nipples in front and angle of scapula behind: shooting pains in back; 11th and 12th D. vert. could be moved laterally; their spines and laminæ removed and cord bulged into wound, but no caseous material found. Next day could move legs; wound healed quickly, no rise of temperature; all symptoms gone in 4 months; complete recovery. Reference: Ibid.

Case 126.—Operator, Alfred Parkin; 1893. Cervical region; duration uncertain: male, 3. Seventh C. and 1st D. spines prominent: could not walk well, knee-jerks lost later, other reflexes normal, legs much emaciated, no loss of sensation, respiration only by means of diaphragm. Laminæ 6th and 7th C. removed and granulations taken away. Two days later respiratory muscles commenced functionating: all symptoms improved; result, great improvement. Reference: Ibid.

Case 127.—Operator, Alfred Parkin, 1894. Lumbar region; duration, 2 years; female, 8. Prominent boss in lumbar region; rigidity of legs, but could be drawn up; walked only when supported, knee-jerks absent; bowels and bladder acted involuntarily; sensation in feet and legs impaired. Spines and laminæ of 2nd and 3rd L. cut away and caseous material removed from corresponding bodies. Immediate improvement: wound did not heal well, had to be scraped twice: 4 months later, 2 small sinuses; all symptoms improved: psoas abscess developed. Improvement, but general tuberculous tendencies. Reference: Brit. Med. Jour., 1893.

We have now succeeded in tabulating 154 cases, double the number upon which my former table was based. Of this number, 128 are sufficiently complete to be included in the statistical results. The total number of deaths occurring as the result, or near enough to the time of the operation to be attributable to it, was 21, or 16.45 per cent. The total number of recoveries was 37 or 28 per cent.; of improvement, 16 or 12.5 per cent.; of unimproved, 18 or 14.06 per cent.; or subsequent deaths, 36 or 28.2 per cent.; total, 128 or 100.2 per cent.

In the tabulation of the subsequent deaths I have been perhaps unnecessarily strict. Many who have shown a recovery from the paraplegia or very decided improvement are included in this list. My reason for this is that in the majority of instances these patients died of sepsis or of pulmonary tuberculosis and should not be included if we accept the theory that those patients with advanced sepsis or tubercular disease in other regions than the spine, or with advanced disease of other viscera should not be operated on. They have, therefore, not been counted in the list of recoveries, improvements or non-improvements, but have ruthlessly been classed among the subsequent deaths. One can not but be impressed with the percentage of mortality and recovery when it is considered that these patients are almost without exception in wretched physical condition when the operation is performed. It is also perfectly evident that if the mechanical treatment is stopped as soon as it is evident that the disease is not arrested by it, and before marked sepsis, cystitis or destruction of the cord supervene, the result of the operation must be much improved.

It is also exceedingly important to consider the region involved. Thus we find that in the cervical region, of 18 patients, 5 died immediately following the operation, while an equal number recovered. Only 3 were improved; 1 was not improved and 4 died subsequently. At least 2 of the immediate deaths were the result of hemorrhage following wounding of the vertebral artery when the transverse process and the vertebral foramen were involved. This must, therefore, be carefully considered in operations in this region, as well as paralysis of the phrenics which follows manipulation of the cord in the region of the third or fourth cervical vertebræ.

In the dorsal region, as we should expect, the conditions are somewhat improved. Here we have by far the largest number of cases—103. Of these, 16 died from the effects of operation, 15.54 per cent., as against 27.77 per cent. in the cervical region; 29 recovered, 28.15 per cent., as against 27.77 per cent. in the cervical. The ratio of difference, it will be noticed, is exceedingly slight. Dorsal improvement is 10.67 per cent., as against 16.66 per cent. in the cervical. This is in favor of the cervical region. There was no improvement in 5.55 per cent. in the cervical region, and in 15.54 per cent. in the dorsal, while the percentage of subsequent deaths was 22.22 per cent. in the cervical and 30.09 per cent. in the dorsal. The chief difference, therefore, seems to be in the ratio of deaths, and if care is taken to protect the vertebral artery and the origin of the phrenic nerves in the cervical region, its results should compare much more favorably with those of the dorsal region. There are too few cases in the lumbar region to serve as a basis of comparison.[1]

TABLES OF CASES OF POTT'S PARAPLEGIA.

Case 76.—Operator, Kraus; 1886. Dorsal region; duration, long time; male, 29; motor and sensory paraplegia, vesical and rectal paresis; resection 10-11 D. arches, carious; no improvement; died in 10 weeks. Reference: Paillard Inaugural Dissertation; Wurtzburg, 1890, p. 62.

Case 77.—Operator, Schoenborn; 1887. Cervical region; duration, 2 years; male, 18; paraplegia below neck, inferior cervical kyphosis, anesthesia complete up to false ribs; third and fourth arches removed, fourth arch gave hemorrhage from vertebral artery; death from hemorrhage in 15 minutes. Reference: Ibid.

Case 78.—Operator, Richardson; 1889. Cervical region; duration 1 year; male, 22; tumor of neck, paraplegia and slight respiratory trouble; removal of fifth lamina, nothing discovered; respiration difficult: atropin; sensibility markedly improved; died fourth day from asphyxia; carious fourth and fifth cervical vertebræ, bony point pressing cord completely softened. Reference: Brooklyn Med. Jour., 1889, i, 401.

Case 79.—Operator, Lorenz; 1889. Dorsal region; duration, 2 years; infant; dorsal kyphosis, motor and sensory paraplegia, vesical and rectal paralysis; resection fifth, sixth and seventh dorsal arches; no improvement. Reference: Wiener Klinik, 1889, p. 127, Case 164.

Case 80.—Operator, Gerster; 1889. Premeningeal suppurating fungosities; rapid improvement; recovery. Reference: N. Y. Med. Jour., 1890, p. 31.

Case 81.—Operator, Davies Colley; 1890. Dorsal region; duration, 4 years; female, 4: paraplegia complete; removal second, third, fourth and fifth dorsal arches. Improved in one week: cured in four months. Reference: Chipault, Studies of Spinal Surgery; Obs. 63 and 65.

Case 82.—Operator, McCosh, Starr, 1894. Dorsal region; partial anesthesia to touch, temperature and pain in legs, and loss of motion; tenth and eleventh dorsal laminæ removed; later, sixth, seventh and eighth dorsal, caries of bodies of vertebræ; discharging sinus; death 4 months later. Reference: Am. Jour. Med. Science, vol. cix, p. 95.

Case 83.—Operator, Wheaton: 1890. Dorsal region; male, 24: motor paraplegia; resection sixth, seventh, eighth, ninth and tenth laminæ, cord appeared pressed backward; improvement, then collapse and death; post-mortem: fungus mass involving the anterior nerve roots. Reference: N. W. Lancet, 1890, p. 288.

Case 84.—Operator, Eiselberg; 1890. Complete paraplegia; trephine; all vertebral muscles involved in tubercular processes: death. Reference: Wiener Med. Woch., 1890, col. 2219.

Case 85.—Operator, Eiselberg; 1890. Paraplegia and vesical paralysis; extirpation large fungous mass; death. Reference: Ibid.

Case 86.—Operator, Eiselberg; 1890. Cervico-dorsal region, paralysis upper extremities; at first improvement; recurrence in 6 months. Reference: Ibid.

Case 87.—Operator, Eiselberg; 1890. Dorsal region; aged 10 years; complete paraplegia, cervical paralysis; removal of eighth and tenth dorsal arches: eight days later fungous mass of pachymeningitis; recovery in 10 months. Reference: Ibid.

Case 88.—Operator, Eiselberg; 1890. Cervical region; cervical kyphosis, subclavicular abscess, partial paralysis of right arm; resection third, fourth and fifth cervical spinous processes; rapid recovery. Reference: Ibid.

Case 89.—Operator, Delorme, 1892. Dorsal region; duration 11 months; male; progressive paraplegia, bladder and rectal symptoms, kyphosis; laminectomy: improvement, complete return of sensation, but not motion; sudden paraplegia, death from exhaustion: post-mortem, tuberculosis of bodies, no pulmonary or urinary lesions. Reference: Chipault, op. cit., p. 276.

Case 90.—*Operator, Gross; 1891. Dorsal region; duration, 1* year; female, 14; paraplegia, exaggerated reflexes, dorsal kyphosis, anesthesia, paralysis rectum and bladder: removal third, fourth, fifth and sixth laminæ; caseous matter size of nut pressing upon cord: improvement at first, increase in pulmonary tuberculosis: result, no improvement. Reference: Ibid., p. 259.

Case 91.—Operator, Jalaquier; 1890. Cervico-dorsal region: duration, 7 months; male, 13½ years; complete paraplegia, recto-vesical paralysis, anesthesia; resection seventh C. and first D. laminæ: great hemorrhage; improvement in motion during first few days, then disappeared; result, no improvement. Reference: Ibid., p. 262.

Case 92.—Operator, Pique; 1891. Dorso-lumbar region: duration, 9 months: male, 26; complete paraplegia, reflexes exaggerated, anesthesia, paralysis of rectum and bladder: tenth D. and second L. arches removed, pus and caseous material pressing cord: tubercular meningitis; death twelfth day. Reference: Ibid., p. 272.

Case 93.—Operator, Gardner; 1891. Duration, long time: female; paraplegia: removed two arches: pus and sequestra escaped from bodies; *after some days slight return of motion*: improvement. Reference: Australia Med. Jour., 1893, p. 121.

Case 94.—Operator, Jones; 1891. Dorsal region; duration, 5 years; female, 31: complete paraplegia, anesthesia, dorsal kyphosis: removed arches eighth and ninth D., seventh displaced backward, soft membrane covering cord: improvement. Reference: Med. Record, 1892, p. 290.

Case 95.—Operator, Boiffin; 1891. Cervical region; duration, 9 months: male, 17: exaggerated reflexes, head movements difficult: removed third, fourth and fifth C. arches, dura normal; improvement. Reference: Bull. Chir., 1892, p. 157, Case 2.

Case 96.—Operator, Urban: 1891-92. Dorsal region; duration, 4 years; female, 19; paraplegia, kyphosis, 5-12 dorsal; temporary resection fifth, sixth, seventh, eighth, ninth and tenth arches; cord compressed at seventh, no pulsation below: death third day from syncope. Reference: Verhand. d. Deutschen Gesell. f. Chir., 1892, p. 211.

Case 97.—Operator, Urban. Dorsal region; duration, 9 months: female, 54: pain in back, paralysis, atrophy of lower limbs and trunk, sensibility to pressure at eighth spinous process: resection third, fourth, fifth, sixth, seventh, eighth, ninth, temporary: cord compressed at eighth, no pulsation below, pulsation did not return till resection of angle of body; death from syncope. Reference: Ibid., p. 216.

Case 98.—Operator, Guelliot et Moret; 1892. Dorsal region: duration, 1 year; female, 37: complete paraplegia, reflexes normal: resection twelfth dorsal arch, caseous material compressing cord: marked improvement. Reference: Union Medicale du Nord Est, 1891, p. 361.

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[1] For the first seventy-five cases on which these statistics are based, see "Laminectomy for Pott's Paraplegia," by Samuel Lloyd, Annals of Surgery, October, 1892. I wish to acknowledge my indebtedness for valuable aid in the preparation of these tables to F. T. Zabriskie, M.D., and to Messrs. E. D. B. Loughran and L. D. Mead.

Case 99.—Operator, Chipault; 1890. Dorsal region; duration, some months; female, 4; abscess superior dorsal region communicating with medullary canal, recession of left eyeball, ptosis; artic. process left and arch of first D. bare and rough, post-tubercular meningitis, large mass of fungous material; next day eye symptoms improved and in two days disappeared; recovery. Reference: Chipault, op. cit., p. 245.

Case 100.—Operator, Roux: 1890. Dorsal region; duration, 1 month; male, 16; partial paralysis of right leg, slight anesthesia below second lumbar vertebra; removal of fifth and sixth arches, pressure by vertebral body; increased paraplegia to complete motor, sensory, rectal and bladder paralysis, wound suppurated; no improvement. Reference: Ibid., p. 246.

Case 101.—Operator, Roux; 1890. Dorsal region; duration, 3 months; aged 9½ years; complete paraplegia, rectal and bladder symptoms, fluctuating tumor between fifth and sixth dorsal; removal of fourth and fifth arches, granulation tissue in canal; slight improvement. Reference: Ibid., p. 265.

Case 102.—Operator, Roux: 1891. Dorsal region; duration, 2 years; male, 21; complete paraplegia, rectal and vesical paralysis, no anesthesia, reflexes normal; great hemorrhage, removal 7-8 D. laminæ, pus right side of vertebræ from body of 8th; recovery; death from pulmonary tuberculosis one year later. Reference: Ibid., p. 264.

Case 103.—Operator, Zavaleta. Dorso-lumbar region; duration, 4 months; male, 30 months; some paralysis of lower limbs, reflexes normal, no bladder or rectal symptoms, kyphosis 11th D. to 3rd L.; resection 12th D. and 1st L., dura much involved, tubercular granulations in canal, caries; recovery in two years. Reference: Ibid., p. 273.

Case 104.—Operators, Zavaleta and Masi; 1892. Dorsal region; duration 1 year; male, 29; sensory-motor paraplegia, vesical and rectal paralysis; resection 7th, 8th. 9th D., no pulsation in dura, pressure due to fungous mass at 8th vertebra, also some sequestra; improvement at first, suppuration and death one month later from suppurative meningitis. Reference: Ibid., p. 274.

Case 105.—Operators, Zavaleta and Ferrari, 1892. Dorso-lumbar region; duration, 3 months; male, 5½; kyphosis 11th D. to 1st L., ilio-femoral abscess, reflexes exaggerated, no paralysis of rectum or bladder; resection 11-12 D. 1st L., compression of cord by tubercular mass, carious body 1st lumbar, sequestra; suppurative meningitis; death. Reference: Ibid., p. 275.

Case 106.—Operators, Zavaleta and Masi. Dorsal region; duration, 9 months; male, 3; paraplegia without pain, kyphosis; 7th, 8th, 9th dorsal arches removed, curettage of bodies; pulmonary edema following general sepsis some weeks later; death. Reference: Ibid.

Case 107.—Operator, Reclus; 1882. Lumbar region; female, 22 months; fluctuating abscess of lumbar region extending to iliac fossa; opening, 3 fractured vertebræ found, small deposits found in a fungous mass, muscles of iliac fossa surrounded by tubercular processes; fistula remained for 6 months; improvement. Reference; Ibid.

Case 108.—Operator, Reynier; 1882. Dorsal region; female, 30; fistulous tract at 8-9 D. leading to column; incision, resection of laminæ 8-9 D., removal of tuberculous material; wound closed; recovery. Reference: Ibid.

Case 109.—Operator, Ollier; 1891. Sacrococcygeal region; male, 21; pain over coccyx in early life, abscess over sacrum for two years, bone exposed; extirpation of coccyx and posterior wall of sacrum and its lower pieces. Reference: Ibid.

Case 110.—Operator, Mayer; 1846. Dorsal region; duration, 6 months; female, 28; accident followed by dorsal gibbosity, later complete paraplegia; arch of 7th D. removed and showed marks of compression; recovery of sensation followed by hyperesthesia, convulsive movements; death on 21st day. Reference: Ibid.

Case 111.—Operator, Maisoneuve, 1860. Lumbar region; male adult; complete paraplegia; resection of several lumbar arches; no improvement. Reference: Ibid.

Case 112.—Operator, Ollier; 1882. Dorso-lumbar region: duration, 5 months; female, 18; weakness of legs and lessened sensibility, four abscesses in dorsal and lumbar region; incision of dorsal abscess, removal of 7th arch and surrounding tubercular processes, incision lumbar abscess, resection 11th and 12th D., 1st and 2d L., tuberculous process removed; immediate disappearance of all pain, improvement, 3 months later fistula, 6 months later another abscess, 9 months later death, pulmonary tuberculosis. Reference: Ibid.

Case 113.—Operator, Fornari; 1883. Dorsal region; female, 20: abscess near 7th and 8th dorsal vertebræ: operation by incision and resection of 7th and 8th arches; diffuse spinal pachymeningitis; death 20 hours later. Reference: Raccoglitore Medico, 1884, vol. i, p. 401, Chipault.

Case 114.—Operator, Southam; 1889-90. Cervical and dorsal regions; duration 1 year; female, 3½; complete paralysis of all extremities; exaggerated reflexes and painful breathing; resection 6th and 7th cervical arches, removed growths, dura not pulsating; three months later resected 4th and 5th cervical and 1st dorsal; improvement after first operation slight; more marked after second; ninth month voluntary motion improved, and in 1892 could walk. Reference: Ibid.

Case 115.—Operator, Southam. Dorsal region; female, 5; dorsal caries, complete motor paraplegia, incomplete sensation; resection 3d, 4th, 5th D. arches, some pus from corresponding vertebræ, no pulsation of cord; no improvement; death 9th day from pneumonia: Reference: London Lancet, 1890, vol. ii, p. 1300.

Case 116.—Operator, Cotterell; 1895. Cervical region: duration, old: female, 13; Pupils dilated, paralysis of right arm, scar on neck from removal of glands 5 years before, projection forward of cervical vertebræ felt through pharynx, head fixed, gradually lost power over left arm and both legs: laminæ and spines of 4th, 5th and 6th C. vertebræ removed: dura bulged slightly; no evidences of dead bone found: skin and muscles sutured, wound closed by first intention; 2nd day, moved left hand; 6th day, moved left hand and arm; 9th day, moved right hand; 14th day, moved right arm above head; 3 months later, complete power over extremities and sensation returned; stiffness of neck removed under massage; complete recovery. Reference: London Lancet, 1896, I, p. 844.

Case 117.—Operator, E. Percy Paton; 1895. Dorsal region; duration, 6 months; male, 8½. First noticed weakness in left leg, causing limping, later appeared in both; angular curve in lower dorsal region; thighs flexed so as to touch abdomen; loss of sensation; knee-jerks active, micturition and defecation normal; later all reflexes disappeared and loss of power over bladder and bowels; temperature very irregular, but no sign of suppuration. Vertical incision made over 7th, 8th and 9th D. spines; bleeding controlled with sponges; 7th and 8th laminæ removed; dura covered with layer of granular tissue; pus and caseous material discharged; closed with deep and superficial sutures and small drain left. Rallied from operation; temperature better, general condition improved; only partial improvement in the paralysis: control over micturition and defecation; 3 months later abscess involving left hip joint, most of head of femur gone, caseous material and pus removed; death 11 months after operation. Autopsy: Only region of laminectomy examined; gap where laminæ were removed much narrowed, filled with a tough, fibrous tissue; diseased foci found in bodies of several vertebræ. Reference: Ibid., p. 1351.

Case 118.—Operator, Arthur Neve; 1888. Dorsal region; duration, 6 months; female, 18. Dorsal curvature and paraplegia; both legs much wasted and no voluntary movement; sensations of heat, cold and pain in both legs; general condition good. Removal of 8th and 9th laminæ; dura healthy and pulsated; wound closed by primary union. Increased pain at first; in 3 days could move left leg slightly. Result: No improvement; discharged one month after operation. Reference: Ibid., p. 1062.

Case 119.—Operator, Arthur Neve; 1895. Lumbar region; duration, 2 years; male, 7. Complete motor and sensory paralysis; slight improvement with extension. Laminæ of 5th and 6th L. removed, dura healthy and cord pulsated; respiration became embarrassed; iodoform dusted in and wound closed without drain; healed; 10 days later wound opened and 1 ounce of pus escaped; sensation and muscular power completely regained in 6 months, but patient was much emaciated; complete recovery. Reference: Ibid.

Case 120.—Operator, T. Sinclair Kirk; 1895. Dorsal region; duration, 1 or 2 years; female, 5½. Dorsal curvature, complete anesthesia of lower part of body and legs, bowel and bladder symptoms, had diarrhea, general emaciation. Menard's operation; incision 4 inches long, int. to tips of trans. processes on left side; 4th and 5th trans. proc., at junction with lamina and pedicle, artic., with ribs and portion of ribs laid bare; transverse processes removed, ribs cut and head and neck removed; diseases parts of bodies, i. e., cavity corresponded t obody of 5th and part of 4th D.; pleura punctured, but no harm done; wound closed. Two days after operation bowels improved; 4 days after, reflexes and sensation; 7 days after, wound healed; 10 days after, analgesia gone; 16 days after, muscular power returned; great improvement; complete return of sensation and muscular power, but curvature remained. Reference: British Medical Journal, 1896, ii, p. 1442.

Case 121.—Operator, Halley, 1895. Dorsal region; duration two years; male, 27. Angular curvature at 5th and 6th D.: motor paralysis of lower extremities; no bladder or bowel symptoms. Removed laminæ of 5th and 6th D.; 4 weeks later, 7th and 8th. Wound healed by first intention, paralysis entirely gone in 10 days; recurrence and second operation; complete recovery. Reference: Jour. of Nerv. and Mental Diseases, 1896, vol. xxiii, p. 770.

Case 122.—Operator, Alfred Parkin; 1893. Dorsal region; duration, 6 months; male, 8. P[illegible]al bladder and bowel symptoms; extension [illegible] of 6th to 9th D. laminæ; cord flattened, bu[illegible]ass anterior to the cord and much dead bone removed; wound closed and drain left in; spine fixed by means of plaster jacket. Three days after operation, knee jerk on right side; 8 days after, on both sides: 3 months after, sat up in bed; general health good; deformity remains; complete recovery. Reference: Brit. Med. Jour., 1893, i, p. 796.

Case 123.—Operator, Alfred Parkin; 1893. Cervical region; duration, 6 years; male, 9. Partial paraplegia, knee-jerks and ankle clonus absent; 6th and 7th C. spines prominent; extension followed by complete paraplegia; diaphragm did not act in respiration. Sixth C. spine and lamina removed and cord exposed, 4th and 5th reduced to mass of connective tissue; all compression removed, followed by pulsation; diaphragm commenced to act. Day after operation rigidity of limbs less, knee-jerks returned, abdomen moved in respiration; wound healed quickly, all symptoms gone in 2 months. Complete recovery, but death from tubercular meningitis. Autopsy: Caseating glands found in front of bodies of 3rd, 4th and 5th vert.; cord normal; brain showed usual appearance of tubercular meningitis. Reference: Ibid., 1894, ii, p. 699.

Case 124.—Operator, Alfred Parkin, 1893. Dorsal region; duration, 3 years; female, 8. Kyphosis, lordosis in lumbar region, advanced scoliosis, dorsal and lumbar spines convex to right, head and cervical part to left; rigidity of legs, knee-jerks feeble, sensation unimpaired; extension increased trouble. Spines and laminæ of 10th, 11th and 12th D. cut away and caseous material in front of cord removed. Next day knee-jerks returned, rigidity of legs less marked; wound healed leaving small sinus for one month; general condition good; later developed psoas abscess; recovery. Reference: Ibid.

Case 125.—Operator, Alfred Parkin; 1893. Dorsal region: duration six months; male, 10. Both legs rigid, reflexes present, complete anesthesia and analgesia up to the nipples in front and angle of scapula behind: shooting pains in back; 11th and 12th D. vert. could be moved laterally; their spines and laminæ removed and cord bulged into wound, but no caseous material found. Next day could move legs; wound healed quickly, no rise of temperature; all symptoms gone in 4 months; complete recovery. Reference: Ibid.

Case 126.—Operator, Alfred Parkin; 1893. Cervical region; duration uncertain: male, 3. Seventh C. and 1st D. spines prominent: could not walk well, knee-jerks lost later, other reflexes normal, legs much emaciated, no loss of sensation, respiration only by means of diaphragm. Laminæ 6th and 7th C. removed and granulations taken away. Two days later respiratory muscles commenced functionating: all symptoms improved: result, great improvement. Reference: Ibid.

Case 127.—Operator, Alfred Parkin, 1894. Lumbar region; duration, 2 years; female, 8. Prominent boss in lumbar region; rigidity of legs, but could be drawn up; walked only when supported, knee-jerks absent; bowels and bladder acted involuntarily; sensation in feet and legs impaired. Spines and laminæ of 2nd and 3rd L. cut away and caseous material removed from corresponding bodies. Immediate improvement; wound did not heal well, had to be scraped twice: 4 months later, 2 small sinuses; all symptoms improved: psoas abscess developed. Improvement, but general tuberculous tendencies. Reference: Brit. Med. Jour., 1893.

Case 128.—Operator, Trendelenburg, 1896. Dorsal region; duration, 5 years; male, 11. Sensibility unimpaired, spasmodic paraplegia, bowels normal, reflexes exaggerated. Resection of 7th C. and 1st, 2nd, 3rd D.; dura thickened with granulations. No improvement from operation. Reference: Verhandlung der Gesell. f. Chir. Kong., xxviii.

Case 129.—Operator, Trendelenberg, 1897. Dorsal region; duration, from early childhood; male, 17. Three years before began to limp; 1 year later, walking difficult, markedly spasmodic; unable to walk for last year; marked curvature to left and deformity of thorax; loss of sensation below umbilicus; spasmodic paraplegia; some movement of toes possible; no bladder or bowel symptoms; reflexes exaggerated. Fifth to 7th D. laminæ removed; cord discolored and twisted; lumen of canal narrowed. Loss of power over bladder after operation; later regained; spasmodic contraction of legs; 3 years later could walk; never had an erection since. Recovery. Reference: Ibid.

Case 130.—Operator, Trendelenberg, 1898. Dorsal region; duration, 2 years; female, 14. Sensibility on right side normal, absent below knee on left side; muscular power strong on left side, slightly reduced on right; standing or walking became impossible; bowels normal; left patellar reflex remains, right absent. Eleventh and 12th D. and 1st L. laminæ removed; canal narrowed. Rapid disappearance of symptoms. Recovery. Reference: Ibid.

Case 131.—Operator, Trendelenberg, 1898. Dorsal region; duration 3 years; female, 14. Sensibility normal, paralysis of left side, paresis on right to great degree; unable to walk or stand. Ninth and 10th laminæ removed, narrowing of canal. Constant improvement; recovery. Reference: Ibid.

Case 132.—Operator, Trendelenberg, 1898. Dorsal region; duration, since early childhood; male, 18. No effect on sensibility, unable to walk, incomplete control over bowels, reflexes increased. Third to 6th dorsal removed, narrowing of canal. No improvement. Reference: Ibid

Case 133.—Operator, Trendelenberg, 1899. Dorsal region; duration, 4 years; male, 9. Sensibilities intact, spastic paraplegia, slight muscular power over legs, reflexes increased. Seventh to 10th D. laminæ removed; caseous material removed from arch of 10th, which was carious. Loss of power over bladder and rectum, later returned; had priapisms; continued improvement. Still under treatment; condition worse than before operation. Reference: Verhand. der Gesell. f. Chir. Kongress, xxviii.

Case 134.—Operator, Trendelenberg, 1898. Dorsal region; duration, 15 years; male, 18. Sensibility, complete anesthesia below crest of ilium; spastic paraplegia and involvement of ilio-psoas muscle; loss of power over bladder, incomplete over rectum; reflexes increased. Removal of laminæ, 8th and 9th dorsal; epidural abscess size of cherry. Subsidence of anesthesia, improvement in bladder and bowel symptoms; gradual improvement; recovery. Remarks: Symptoms pointing to another abscess. Reference: Ibid.

Case 135.—Operator, Trendelenberg, 1899. Dorsal region; duration 17 years; male, 36. Sensibilities dulled, paresthesia, weak movements, can walk on crutches; marked spasms, incontinence of urine and feces, bowels same; reflexes increased. Removal laminæ 2nd to 4th dorsal, narrowing of canal. Movement of legs rapidly returned; bladder and bowel symptoms much improved; recovery. Still under treatment. Reference: Ibid.

Case 136.—Operator, Ellenwood, 1894. Dorsal region; duration, 10 months; male, 26. Struck by log; had secondary syphilis; complete paraplegia, diagnosed as Pott's disease. Fourth, 5th, 6th and 7th D. arches removed; abscess around right 5th trans. process connecting sequestrum in canal; no drainage. Small sinus; remaining, little improvement. Death from pulmonary tuberculosis. Reference: Occidental Med. Times, 1894.

Case 137.—Operator, Lloyd, 1892. Case 1. D. region; duration, more than 2 years; boy, between 7 and 8 years old. Sharp kyphosis, apex at 7th dorsal; abscess with fistula opening between the 8th and 9th ribs of right side, about 3 inches from median line posteriorly; physical condition bad; sacral bedsores; paraplegia, anesthesia and vesico-rectal paralysis. Incision made along margin 8th rib from sinus toward spine about 2 inches; resection of rib; during dissection along the sinus pleura was opened and fluid evacuated from an encapsulated cavity; large abscess finally opened communicating with bodies of 7th and 8th vertebræ; bone debris, sequestra and granulation tissue scraped away; articular processes of both vertebræ found eroded and transverse process loose. Removal of these portions allowed entrance to vertebral canal and the removal of considerable debris pressing on cord. Gradual improvement in symptoms; anesthesia less marked, control of bladder, then of rectum; motion in flexors and adductors of thighs; then pulmonary involvement and death in 8 months after operation.

Case 138.—Operator, Lloyd, 1892. Case 2. D. region; duration 1 year; boy, 10 years. Kyphosis at level of 10th dorsal with sinuses along back and psoas abscess of large size; paraplegia, partial anesthesia, some rectal and vesical paralysis, very septic, contracures of thighs and legs. Incision from 8th to 12th dorsal; muscles infiltrated with tubercular tissue; during curettage transverse process, articular process and part of right lamina of 10th vertebra removed; cord compressed by granulation material and a sequestrum from body of 10th laminæ, 9th, 10th, and 11th vertebræ removed and vertebral canal curetted; pulsation returned in cord. Decided improvement; could soon move legs; had control of bladder and rectum and sensation normal. Contracted measles and died 10 months later while still improving. Still had sinuses communicating with bare bone.

Case 139.—Operator, Lloyd, 1893. Case 3. L. region; duration 7 months; girl, 7 years. Tubercular tumor with psoas abscess over 2nd lumbar vertebra. Partial paraplegia, vesico-rectal paralysis; great pain in back and legs; sacral bedsores; incision into tumor and curettage, opened spinal canal between laminæ of 2nd and 3rd vertebræ close to transverse processes of left side; removal of laminæ 1st, 2nd and 3rd L., caries body of 2nd; psoas abscess opened in Scarpa's triangle; this communicated with posterior abscess; drainage. Improvement, but soon showed pulmonary tuberculosis, from which she died within one year.

Case 140.—Operator, Lloyd, 1893. Case 4. D. region; duration 2 weeks; girl, 7 years. Kyphosis level of 5th D. vertebra; plaster jacket; whooping-cough, sudden paraplegia and anesthesia below umbilicus, vesico-rectal paralysis. Laminectomy 3rd, 4th, 5th and 6th dorsal; compression of cord from displacement of body of 5th vertebra, which was carious and almost destroyed, probably had given way during a fit of coughing; no pulsation in cord below this area, even after scraping away the compressing portion. No improvement. Death from respiratory difficulty due to ascending degeneration of cord.

Case 145.—Operator, Lloyd, 1898. Case 5. C. region; duration 1 year; man, 24 years. Torticollis, posterior pharyngeal abscess, tingling in arms and lower limbs, numbness; no paraplegia, but sense of sluggishness in muscles and weakness; reflexes exaggerated. Incision parallel to post. margin of sterno-cleido-mastoid, right side, careful dissection; abscess opened, trans. process and ant, surfaces 3rd and 4th vert. eroded and bare; necrosis inferior articular process; 3rd opening canal; vertebral artery not injured; small focus granulation tissue about articular process extending slightly into canal. This patient developed tubercular disease about knee, which was operated on 6 months later. At this time all numbness and spinal symptoms had disappeared. He then developed dulness of both pulmonary apices. Sent to mountains and now, June 6, 1900, is well except for a small sinus in neck not communicating with bone.

Case 146.—Operator, Lloyd, 1893. Case 6. D. region; duration long time; boy, 12 years. Had been paralyzed a long time before coming to hospital. Complete paraplegia and anesthesia below umbilicus. Great pain in back and legs, vesico-rectal paralysis; slight displacement backward of 4th dorsal spine. Laminectomy 2, 3, 4, 5 6 dorsal; pachymeningitis with great thickening of dura from 2nd to 5th dorsal; leathery mass removed; some hemorrhage, controlled by temporary packing; dura opened in several places, but readily sutured, cord softened. No improvement; death from exhaustion 3 months later.

Case 147.—Operator, Lloyd, 1893. Case 7. D. region; duration 10 months; girl, 5 years. Paraplegia, anesthesia from point between umbilicus and symphysis; vesico-rectal paralysis; sacral bedsores, also bedsores over heels; reflexes abolished. Laminectomy 5, 6, 7, 8 dorsal; mass grayish granulation material involving intervertebral fat and interspinous ligaments; small carious focus in body of 6th vertebra; severe compression of cord; no return of pulsation, softened. No improvement; gradually increasing paralysis and finally death 4 months later from respiratory failure due to ascending degeneration.

Case 148.—Operator, Lloyd, 1894. Case 8. D. region; duration some months; boy, 9 years. Very large and sharp kyphosis from 2nd to 9th dorsal; paraplegia, anesthesia below umbilicus, vesico-rectal paralysis; reflexes abolished; contracted thighs, pain in back and limbs, especially on motion. Laminectomy 4th, 5th, 6th and 7th D., cord completely severed between greatly thickened interspinous ligaments of 5th, 6th and 7th spines and body of 6th. No improvement. Death from pyelitis 2 months later.

Case 149.—Operator, Lloyd, 1894. Case 9. D. region; duration, 6 months; boy, 11 years. Sinus at angle of 7th rib, which was bare fluid in pleura, fluctuating tumor between sinus and spine; unable to walk; reflexes exaggerated, pain in back, chest and limbs; spastic gait. Incision enlarging sinus backward, resection rib 2 inches, opening pleura, pus evacuated, communication sinus with fluctuating tumor, incision extended; granulations and several sequestra found, 1 being head of rib; piece of rib removed; vertebral canal opened alongside of transverse process; Post. nerve roots injured during exploration. Lamina of 9th vert. removed and some bone debris curetted from around cord. All symptoms due to spinal pressure disappeared immediately; could walk in 2 weeks. Death from exhaustion from large suppurating wound involving pleura 6 weeks later.

Case 150.—Operator, Lloyd, 1895. Case 10. D. region; duration, 2 years; girl, 7. Paraplegia, anesthesia, vesico-rectal paralysis; reflexes almost if not quite abolished; bedsores, sacrum and heels; pain, back and legs and abdomen; cystitis very marked. Laminectomy 2nd, 3rd and 4th dorsal; tubercular mass involving ligamenta subflava and interspinous ligament between 3rd and 4th spines; transverse process and articular process (superior left) of 3rd vertebra eroded; cord greatly compressed; no pulsation after or before removal of mass. No improvement. Death from pyelitis 5 months after operation.

Case 151.—Operator, Lloyd, 1894. Case 11. C. region; duration, more than 1 year; girl, 6 years. Paraplegia, anesthesia including arms partially; occasional attacks respiratory difficulty; bedsores, vesico-rectal paralysis, abolition reflexes; tumor over 5th and 6th cervical vertebræ. Laminectomy 5th and 6th cervical; tubercular granulations springing from spines 5 and 6, and eroding left lamina of 5th vert.; compression of cord by pachymeningitis and tubercular granulations and bony debris; pulsation not satisfactory after compression removed. Slight improvement only. Could use arms but not legs. Death from respiratory failure 3 months after operation.

Case 152.—Operator Lloyd, 1895. Case 12. D. region; duration, 3 months; girl, 7½ years. Partial paraplegia; reflexes normal; no anesthesia; pulmonary involvement left apex; tumor over 12th dorsal. Laminectomy 11th and 12th dorsal, 1st lumbar; caries arch 12th dorsal and spinous process involving vertebral canal for short distance. Immediate and complete recovery. In few weeks could walk well without aid of any kind. Death 8 months later, pulmonary tuberculosis.

Case 153.—Operator, Lloyd, 1896. Case 13. D. region; duration, 7 months; boy, 4 years. Complete paraplegia, anesthesia, vesico-rectal paralysis, abolished reflexes; great pain; sharp kyphos 11th dorsal and 3rd lumbar. Laminectomy 11th and 12th dorsal, 1st and 2nd lumbar; pressure due to tubercular debris, and large sequestrum completely occupying vertebral canal; cord absolutely separated for space of 1½ inches, except for a fibrous band. No improvement.

Case 154.—Operator, Lloyd, 1898. Case 14. L. region; duration, 2½ years; boy, 5 years. Psoas abscess, sinus at tip of coccyx into rectum and gluteal region. Very painful on pressure in region of 4th lumbar spine; does not attempt to walk; reflexes exaggerated; amyloid liver, spleen also enlarged; marked lumbar lordosis. Incision along lumbar region opens abscess and allows of removal of sequestrum from body and transverse process of 4th lumbar; lamina also eroded and removed; granulations scraped away from cauda and from abscess cavity. Complete recovery of function; can walk well without support.

(To be continued.)

JOINT TUBERCULOSIS.*

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The discussion of tuberculosis of the hard and soft parts has been so general in the past years that it would hardly seem necessary at this date to emphasize the extent or the importance of this infection in the production of bone or joint disease, but the fact still remains that a large proportion of cases of joint tuberculosis are not recognized until the period of actual destruction has taken place. Tuberculosis of the joints, as of the lungs, requires for its arrest a diagnosis at the very beginning of the infection. At this time, while it is a purely local process, arrest and cure are perfectly feasible; in the later stages, destruction of bone or joint or limb or life is probable. It is of the utmost importance, therefore, that a recognition of the earliest signs should be urged upon the general practitioner, so that curative measures may be instituted at the earliest possible moment. Three things are absolutely necessary in order to accomplish this result: 1. The practitioner must first recognize that joint tuberculosis is at the beginning a purely local process; that the focus is small; that local and constitutional symptoms will not present themselves in any positive palpable or visible symptoms so far as the ordinary evidences of acute inflammation are concerned. As a rule, there will be neither heat, nor swelling, nor redness, nor recognizable pain. I do not mean by this that there will not be recognizable symptoms; these are nearly always present, but they are of a different kind, as will be shown later. 2. The practitioner must rid his mind of the idea that joint tuberculosis originates only in the children of tubercular parents. A visibly healthy child, of apparently absolutely healthy ancestry, can, and often does, have local tuberculosis. 3. He must absolutely divest himself of the old idea that all joint pain is rheumatic. This last error is the most difficult of all to remove, as it is so firmly fixed in the minds of the profession and of the laity, and is most pernicious in its results.

As already stated, the evidences of acute inflammation are rarely present. It is a quiet struggle that is going on deep in the recesses of the epiphysis of the bone, but it is a desperate one. The tubercle bacillus has gained a foothold, owing to some local traumatism or temporary constitutional depression that has lowered the individual's resistive power. The attack of the enemy is immediately the signal for phagocytic defense; the invader must be destroyed, or, failing in this, must be walled off and isolated from the system. In a previously healthy individual victory will crown the efforts of these defending cells, if the physician will but lend his aid to prevent that stage beyond hyperemia which we recognize best by the term inflammation. Alas! Too often the surgeon waits for the flame to show itself, when he should have made his diagnosis while there was but the smouldering ember! It is then too late to check disastrous results. It is a discredit to any surgeon to wait for violent or inflammatory symptoms before he makes a diagnosis; both diagnosis and treatment are demanded at the very inception of the invasion. With early diagnosis and early treatment, hundreds of crippling results will be arrested.

After a slight and often unrecognized injury, a child begins to limp. Let no physician imagine that a child limps "from habit;" a child does not wish to be hampered in its play, and it will limp only from a cause. To find that cause is the duty of the physician; he will not find it by looking for tenderness or pain, although these may be exceptionally present, but first in rigidity of the muscles (muscular spasm), protective rigidity, in the region of the joint affected. The muscles are all placed upon guard, and diminished mobility is the result. Fortunately, Nature at once recognizes the invasion of the enemy, and uses her best efforts to secure the condition most helpful for recovery. Nature puts the part as thoroughly at rest as is possible under existing mechanical conditions by fixing the joints in the best attainable position and preventing motion, but unfortunately in doing this she is compelled to bring the two joint surfaces into more positive apposition. This rigidity can be recognized in the first few days, if the patient is stripped and placed in a horizontal position; a comparison of the position of the limbs and the motions possible at any given joint can then be fairly instituted. With the patient standing, or clothed, any surgeon is liable to error, especially if the joints of the lower extremities are involved. Even for an examination of the shoulder or elbow, patients should be stripped to the waist. I am inclined to attribute a large proportion of errors to insufficient examination. A careful investigation, under these circumstances, will, even in the first few days of the disease, disclose this limitation of motion in some direction. At the knee we will usually find that the hamstring muscles, being the stronger, have carried the knee into a state of flexion, thereby also relieving joint strain; at the hip, the psoas, iliacus and anterior muscles will be found in a state of excessive tension, while the entire periarticular group will also be rigid and on guard. Bringing the pelvis into its proper relation to the vertebræ, by flexion of the sound limb upon the chest, will at once show the deviation of the affected limb from its normal relations to the ilium; or, if the popliteal space is brought down upon the table, the pelvis will be so tilted that a compensatory lordosis of the spine is necessitated. In early examination, movements of the femur may drag the pelvis after it only in one direction, but a few days later all the muscles will be on guard, and it will be noted that the pelvis follows the thigh bone in all directions: adduction, abduction, flexion, rotation, etc.

Pain.—Pain is frequently entirely absent or may exhibit itself by a reflected pain, or by distress along the course of a nerve and at a distant point, as in the knee in hip-joint disease, or down the legs or in the abdomen in spinal caries. The night-cries so frequently present in joint disease are an evidence of deep pain, caused by the sudden resumption of muscular control when any motion of the limb during sleep arouses the muscles to sudden and violent action. The patient, after a scream or cry, will be relieved by the control secured by muscle rigidity, and will sink to sleep only to have the process repeated at irregular intervals. Tenderness may be entirely or partially absent; in fact, is rarely present over a tubercularly diseased vertebra. Rigidity is evidenced when attempts are made either at flexion, extension, lateral bending or rotation, and is a much more reliable sign. Tenderness even at the ankle and wrist in tuberculous cases is often wanting. Induration and thickening, however, are usually present early, and become marked as the disease progresses; comparison with the opposite joint will best discover the amount. Heat or redness is rarely visible.

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Rheumatism.—A large majority of all cases of tubercular hip disease are treated for weeks, even months, sometimes even up to the stage of suppuration, for so-called "rheumatism." The mistake is utterly inexcusable, for rheumatism of a single joint in children ought to be absolutely thrown out of the question, unless positive symptoms are in evidence. The symptoms of true rheumatism are always sufficiently marked to render the diagnosis clear, consequently if every case of joint disease which is unaccompanied by positive indications is viewed from the beginning with the probability of its being tubercular, the greatest benefit to mankind will be secured. I have never seen injury resulting from an error of diagnosis in this direction; I have seen hundreds of most lamentable results from the "rheumatic" mistaken diagnosis. Moreover, the treatment for the more grave disease is never injurious, even granted that the rheumatic element is present. The symptoms of the two conditions differ so widely that only care is necessary for the differentiation.

Treatment.—Diagnosis being assured, the indications for immediate and early treatment are positive. One week of rest at the inception of a tubercular invasion will accomplish more than months at a later period after a tubercular focus is established. A large proportion of the cases of invasion can be warded off if the proper treatment is commenced within the first ten days. The treatment of joint disease should follow certain positive lines; the methods of securing results will differ greatly with individuals, as might be anticipated. Rest of the affected joint; control of muscular action; relief from weight-bearing; abundance of sunshine, fresh air and good food are the fundamental ideas. Mechanically, the chief object is to prevent the addition of hyperemia and inflammatory action to the cell conflict already inaugurated against the invading enemy. Therapeutic and hygienic measures are of the greatest importance. A general definite plan of treatment is all-important; the particular method, or the particular splint, to be employed is not of much consequence.

Conclusions.—1. Diagnose early; treat early. 2. Do not look for positive inflammatory signs as indications of tubercular invasion; the symptoms are entirely different, but are equally positive, if a careful examination is made, muscular rigidity being one of the earliest and most reliable. 3. Discard entirely the existence of rheumatism of a single joint in children.

PERMANENT CATHETERIZATION.*

J. RILUS EASTMAN, M.D.
Professor of Surgery in Central College of Physicians and Surgeons.
INDIANAPOLIS, IND.

Varying opinions are held as to the usefulness of the retained catheter after perineal operations upon the posterior urethra. Most authorities, in discussing external urethrotomy, pass the retention catheter without comment, advocating the use of the short perineal drainage-tube only. By some it is advised that continual catheterization be employed for twenty-four or forty-eight hours, and that at the end of that time intermittent catheterization be begun. A few favor retention of the catheter for a longer period, varying from three to six days. By no writer with whose counsels I am familiar are we taught to leave the catheter in after perineal urethrotomy until the urethral and perineal wounds are firmly healed.

Permanent catheterization for a period as long as twenty days is common practice in hematuria, having its origin in trauma of the prostate, and, as is well known, it is often indicated and employed in certain cases of retention of urine, the patient being placed under such circumstances that regular sterile catheterization can not be practiced. In such cases a permanent catheter, far from causing distress, often affords complete relief from pain and strangury, and even in cases of pronounced infection it often gives excellent service. It relieves tension, diminishes cystitis and renders the subsequent passage of instruments easy by maintaining or even increasing the caliber of the urethra.

The practice of permanent catheterization fell into disrepute before the advent of clean surgery, it having been observed that the continuous presence of the catheter in the bladder and urethra produced congestion at the vesical neck, cystitis and a mechanical urethritis. Abscesses also developed occasionally in the periurethral tissues at the scrotal angle, due in all probability to pressure exercised by the instrument.

Inflammation of the bladder may occur during permanent catheterization, as a direct extension of a urethritis or from decomposition of the small quantity of urine which always moistens the intravesical end of the catheter. To prevent this complication we are generally advised to change the catheter often and to flush the urethra twice daily with 1 to 10,000 corrosive chlorid solution, or 1 to 1000 silver nitrate, and to irrigate the bladder as often with 4 per cent. boric acid solution.

It occasionally happens, however, that the membranous and prostatic urethra, after external urethrotomy, particularly along the line of incision, is so sensitive and deformed that the changing of the catheter would be an exceedingly difficult and exquisitely painful procedure. After perineal section involving removal of a portion of the posterior urethra and anastomosis, the passage of the catheter is, as is well understood, extremely difficult of execution.

If, after such an operation, a large soft-rubber catheter can be retained in the urethra, its tip barely projecting into the bladder, until the urethral and perineal wounds have completely healed, or firm granulation tissue fills the perineal defect, it will, as can readily be seen, do away with much of the tedious work of after-treatment in the case. The writer has been surprised to discover with what great tolerance the urethral mucosa suffers the presence of a soft-rubber catheter. This tolerance on the part of the mucous membrane seems to be more marked when a catheter of large size is used. The reason for this is not altogether clear. It is possible, however, that when a large catheter is used, the lumen of the urethra being quite filled, and the possibility of movement of the catheter in the urethra being thereby restricted, irritation of the mucosa as the result of friction is not so apt to occur as if smaller instruments were used. Moreover, the very presence of a large catheter in the posterior urethra extending into the bladder doubtless does much to relieve spasm at the vesical neck by mechanically preventing contraction of the cut off muscles. The effect here is perhaps similar to that produced by dilatation of an irritable and contracted sphincter ani.

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In a case observed by the writer, after a perineal section for impassible traumatic stricture involving excision of a huge scar, resection of nearly all of the membranous urethra and urethral anastomosis, a No. 26 French scale, soft-rubber catheter was retained in the urethra for seventeen days, and in that time the patient neither suffered loss of sleep nor complained of pain. The temperature never rose above 99.4 F., nor the pulse above 80. As for discharge, there was just enough of mucopurulent character to slightly moisten the meatus, the lips of which were somewhat pouting and red. This patient received, by mouth, three times a day, five grains of salol and five grains of cystogen. The bladder was washed out twice daily with warm 4 per cent. boric acid solution, and once every other day an ounce or more of hot solution of 1 to 5000 potassium permanganate was injected between the catheter and the urethral mucosa. After the sixth day the discharge from the urethra ceased, and the flushing with potassium permanganate was discontinued. It seemed that the mucosa of the urethra had now become quite tolerant of the catheter. The discharge did not reappear. The bowels were not allowed to move during the first two weeks. At the end of this time they were cleaned with Apenta water. When the catheter was removed, healing was quite complete and the subsequent care of the case was easy. In this instance intermittent catheterization was hardly to be considered, and permanent retention of the catheter left nothing to be desired. In another case, one of traumatic stricture with consequent fistulæ of the membranous urethra of thirteen years' standing, a No. 26 Charrier scale catheter was left in after perineal section and urethrotomy, for twelve days. The perineal wound healed solidly during this time. After removal of the catheter, the membranous urethra was found to be large enough to readily admit the passage of a No. 32 French steel sound. This striking increase in the caliber of the urethra was doubtless due to absorption produced by the permanent dilatation. It has been interesting to the writer to note with what facility sounds several sizes larger than the retained catheter can be introduced after removal of the latter.

In a third case, after operation for the relief of a large suppurating and much operated perineal fistula, the process of repair being slow, a No. 26 French rubber catheter was left in the urethra for sixty-five consecutive days. After the tenth day, pain in the bladder and the discharge from the urethra having ceased, the patient began to walk about, the urine being caught in a rubber urinal tank strapped to the thigh. Three weeks after the introduction of the catheter this man made a journey into an adjoining state, wearing the instrument without discomfort, returning after four days, none the worse for the trip.

The writer has recently employed permanent catheterization, after perineal lithotomy, in two cases. The catheter was kept in for two weeks in each instance. During this time no attention was paid to the condition of the urethral and vesical mucosæ except in so far as administration by the mouth of salol and cystogen may be interpreted as such attention. Neither urethra nor bladder was flushed at any time. There was no apparent cystitis and no discharge from the urethra, the perineal wounds healing promptly.

The observations in these cases would seem to teach that the danger of mechanical urethritis and cystitis as the result of the presence of a retention catheter has perhaps been somewhat overestimated, that after such a catheter has been in contact with the urethral mucosa for several days there develops a distinct tolerance on the part of the urethra for the instrument, and that large catheters are rather to be chosen for permanent retention than smaller ones. A large catheter is much more easily retained than a small one.

SUGGESTIONS FOR THE RECONSTRUCTION OF SYPHILITIC NOSES.*

JOHN B. ROBERTS, M.D.
PHILADELPHIA, PA.

Nasal deformity from syphilitic destruction of bone and cartilage is a very frequent result of the tertiary stage of the disease. The disfigurement varies in extent and character, but is always very noticeable because of the importance of the nose in facial contour. The mental distress of the patient is usually acute, because the disfigurement is associated in the public mind with a loathesome and disgraceful disease. The fact that syphilis may be inherited or be acquired in an innocent manner avails little in the public's estimate of a person carrying ever upon his countenance the well-known mark of sexual impurity. Nearly every other lesion of syphilis may be concealed from public observation, or may at least be attributable to diseases of a less dishonorable nature. The patient with the sunken or distorted nose of syphilis has, however, scarcely any shield to protect him from impertinent scrutiny and the innuendo that his tissues are contaminated with the scourge usually due to unchastity.

These circumstances make the condition one to appeal to the sympathy of the surgeon, whose every effort should be given to the consideration of adequate operative relief.

My attention has been forcibly directed to this surgical problem, because I have recently seen more than one who had in vain applied for relief to the general surgeon and nasal specialist. For years past the correction of deformities of the face has been of increasing interest to me; and I have been more and more gratified at the results obtainable by intelligent operative measures. The literature of this surgical field has become quite voluminous, but it will be found to repay those who take time to study it.

Syphilitic deformities of the nose may be roughly divided, for the present purpose, into: 1, those in which

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In a case observed by the writer, after a perineal section for impassible traumatic stricture involving excision of a huge scar, resection of nearly all of the membranous urethra and urethral anastomosis, a No. 26 French scale, soft-rubber catheter was retained in the urethra for seventeen days, and in that time the patient neither suffered loss of sleep nor complained of pain. The temperature never rose above 99.4 F., nor the pulse above 80. As for discharge, there was just enough of mucopurulent character to slightly moisten the meatus, the lips of which were somewhat pouting and red. This patient received, by mouth, three times a day, five grains of salol and five grains of cystogen. The bladder was washed out twice daily with warm 4 per cent. boric acid solution, and once every other day an ounce or more of hot solution of 1 to 5000 potassium permanganate was injected between the catheter and the urethral mucosa. After the sixth day the discharge from the urethra ceased, and the flushing with potassium permanganate was discontinued. It seemed that the mucosa of the urethra had now become quite tolerant of the catheter. The discharge did not reappear. The bowels were not allowed to move during the first two weeks. At the end of this time they were cleaned with Apenta water. When the catheter was removed, healing was quite complete and the subsequent care of the case was easy. In this instance intermittent catheterization was hardly to be considered, and permanent retention of the catheter left nothing to be desired. In another case, one of traumatic stricture with consequent fistulæ of the membranous urethra of thirteen years' standing, a No. 26 Charrier scale catheter was left in after perineal section and urethrotomy, for twelve days. The perineal wound healed solidly during this time. After removal of the catheter, the membranous urethra was found to be large enough to readily admit the passage of a No. 32 French steel sound. This striking increase in the caliber of the urethra was doubtless due to absorption produced by the permanent dilatation. It has been interesting to the writer to note with what facility sounds several sizes larger than the retained catheter can be introduced after removal of the latter.

In a third case, after operation for the relief of a large suppurating and much operated perineal fistula, the process of repair being slow, a No. 26 French rubber catheter was left in the urethra for sixty-five consecutive days. After the tenth day, pain in the bladder and the discharge from the urethra having ceased, the patient began to walk about, the urine being caught in a rubber urinal tank strapped to the thigh. Three weeks after the introduction of the catheter this man made a journey into an adjoining state, wearing the instrument without discomfort, returning after four days, none the worse for the trip.

The writer has recently employed permanent catheterization, after perineal lithotomy, in two cases. The catheter was kept in for two weeks in each instance. During this time no attention was paid to the condition of the urethral and vesical mucosæ except in so far as administration by the mouth of salol and cystogen may be interpreted as such attention. Neither urethra nor bladder was flushed at any time. There was no apparent cystitis and no discharge from the urethra, the perineal wounds healing promptly.

The observations in these cases would seem to teach that the danger of mechanical urethritis and cystitis as the result of the presence of a retention catheter has perhaps been somewhat overestimated, that after such a catheter has been in contact with the urethral mucosa for several days there develops a distinct tolerance on the part of the urethra for the instrument, and that large catheters are rather to be chosen for permanent retention than smaller ones. A large catheter is much more easily retained than a small one.

SUGGESTIONS FOR THE RECONSTRUCTION OF SYPHILITIC NOSES.*

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Nasal deformity from syphilitic destruction of bone and cartilage is a very frequent result of the tertiary stage of the disease. The disfigurement varies in extent and character, but is always very noticeable because of the importance of the nose in facial contour. The mental distress of the patient is usually acute, because the disfigurement is associated in the public mind with a loathesome and disgraceful disease. The fact that syphilis may be inherited or be acquired in an innocent manner avails little in the public's estimate of a person carrying ever upon his countenance the well-known mark of sexual impurity. Nearly every other lesion of syphilis may be concealed from public observation, or may at least be attributable to diseases of a less dishonorable nature. The patient with the sunken or distorted nose of syphilis has, however, scarcely any shield to protect him from impertinent scrutiny and the innuendo that his tissues are contaminated with the scourge usually due to unchastity.

These circumstances make the condition one to appeal to the sympathy of the surgeon, whose every effort should be given to the consideration of adequate operative relief.

My attention has been forcibly directed to this surgical problem, because I have recently seen more than one who had in vain applied for relief to the general surgeon and nasal specialist. For years past the correction of deformities of the face has been of increasing interest to me; and I have been more and more gratified at the results obtainable by intelligent operative measures. The literature of this surgical field has become quite voluminous, but it will be found to repay those who take time to study it.

Syphilitic deformities of the nose may be roughly divided, for the present purpose, into: 1, those in which one, or both alæ, the lobule, the columella, or other parts of the external nose have been ulcerated away; 2, those in which the internal supports of the cartilaginous nose have been destroyed and the middle of the organ has fallen inward, causing a transverse depression below the nasal bones; and 3, those in which a similar internal destruction has been followed not only by the transverse depression but a cicatricial invagination of an ala, both alæ, or the end of the nose. The more serious cases may be complicated with necrotic perforation of the hard palate, loss of portions of the alveolar process of the upper jaw, cicatricial changes from ulcerative destruction of the soft palate; and also by actual loss of portions of the sunken or retracted external nose. The first group contains the cases which are improved by the comparatively simple plastic procedures; and hence they are not often refused treatment. It is not difficult to make a new ala out of the tissues of the cheek by cutting a flap with its pedicle at the side of the nose, and swinging it around into the gap in the outer wall of the naris. A columella may be constructed with sufficient ease by cutting a column of skin and muscle from the middle of the upper lip and turning it upward. One operation, supplemented by a little trimming or modelling of the parts at a later date, is usually sufficient to ensure a fair reconstructive result.

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* Read by title in the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

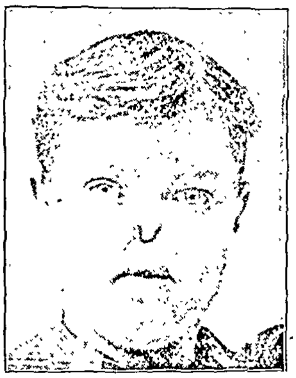
Fig. 1.—Destruction of alæ and lobe of nose, due to syphilis.

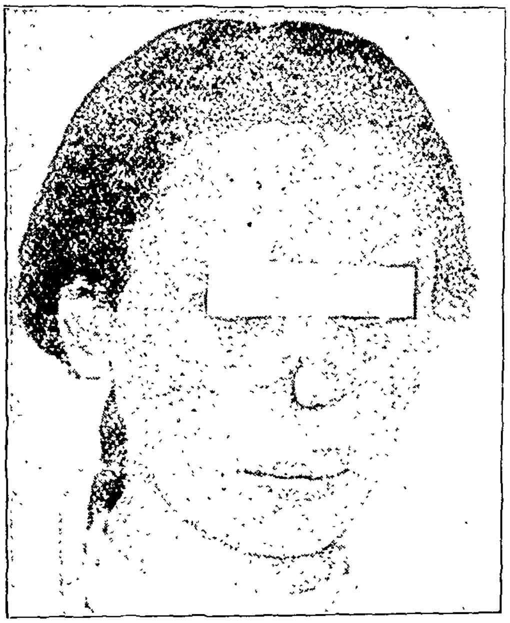
Fig. 2.—Destruction of alæ, columella and portion of hard palate, due to syphilis.

The patients who belong to the second and third groups, are those who meet with discouragement when they apply for surgical relief; and yet much, very much, may be done to lessen the horrid deformity of countenance and to alleviate the despondency due to the consciousness of facial ugliness. I have seen evidence that some members of the medical profession believe that these syphilitic noses should go untouched, because the constitutional taint may militate against healing after operation wounds. This opinion is fallacious. It would not be proper to operate on a nose the seat of active syphilitic inflammation; but, after the active process has ceased, incisions heal as promptly in syphilitics as in healthy persons. I have never seen any more reason to hesitate to cut bone, cartilage and skin in the former than in the latter class of patients.

The simplest form of sunken nose is that in which the organ has caved in, as it were, at the middle of the dorsum. Thus the lobule is thrown upward, the plane of the openings of the nostrils is more or less vertical instead of horizontal, and projection of the cartilaginous nose is greatly reduced. To remedy the deformity, the tip of the nose must be brought downward and forward. This is usually to be done by a free transverse cut across the nose at the point of greatest depression. This incision permits the operator to pull the lobule and alæ downward, until the tip of the nose stands out prominently from the plane of the face, and the nostrils with the intervening columella lie in a horizontal plane. The detachment of the lower part of the organ from the nasal bones above and its reposition leave an opening into the nasal chamber extending across the middle of the face. This space must be filled with flaps of tissue sufficiently large not to draw the lower part of the nose upward when healing takes place; and sufficiently rigid to maintain a straight or a nearly straight line along the dorsum or bridge of the nose.

Fig. 3.—Reconstructed nose after syphilitic deformity This nose was much sunken before operation.

Various methods of operating have been devised. Some surgeons have inserted metallic supports with legs resting on the nasal bones or the frontal bone above, and the superior maxillary bones below. These foreign bodies are not very desirable occupants of reconstructed syphilitic noses. I prefer to build, of superimposed flaps, a thick fibrous wall which will maintain its shape; or else to hold such a reconstructed wall in proper shape by some form of inconspicuous spring attached to a spectacle frame.

Recently I operated on such a case with gratifying result, by turning into the gap two pairs of cheek flaps and bringing down two flaps from the forehead. The first cheek flaps were turned into the gap with the skin surface toward the nasal cavity. Subsequently two flaps were made from the frontal tissue between the eyebrows and rotated downward on top of the cheek flaps. At a still later period two more cheek flaps were cut and rotated on the top of the new portion of nose. Minor operations were done to properly adjust these various masses of borrowed skin and connective tissue and more will be required. The result, however, justifies the time and annoyance to the patient of so many operations. She is now one of my most grateful patients.

In all such nasal reconstructions, the patient should know at the start that six months or a year is not too long a time to devote to the operative relief. Each step must be followed by a period of inactivity to allow cicatricial influences to show their effects. The surgeon must be guided by the experience obtained in each patient, and can not promise exactly when he will operate again or what he will do as the next step.

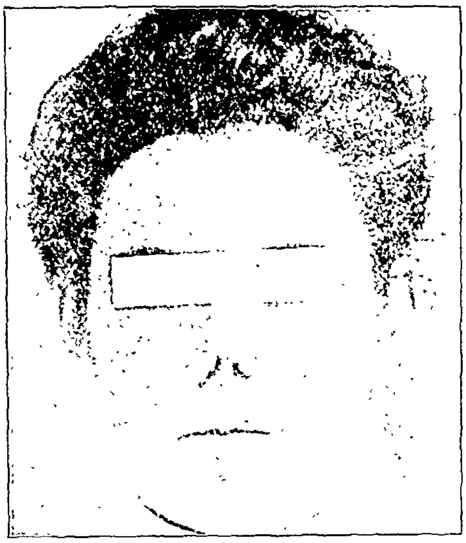

Fig. 4.—Loss of end of nose from caustic applied by quack doctor. [Case shown to illustrate what can be done in similar cases due to syphilis.]

Some years ago I satisfactorily slipped a triangular flap down from the forehead; and pinched it up into a fair-looking dorsum with an eyeglass spring attached to a pair of spectacles supported by the ears.

Another method which might be employed is that used by Keegan in rhinoplasty for amputated nose. He dissects the tissue from over the nasal bones and turns it downward in two flaps, which then lie with their raw surfaces upward. Over these might be placed two flaps made from the cheeks or a frontal flap similar to, but smaller than, that used in making an entire cartilaginous nose. Other suggestions are to bring down a frontal flap after making a groove down the middle of the upper part of the nasal bridge, by splitting the soft tissues in the middle line and drawing them aside; to make a small frontal or frontonasal flap, perhaps containing periosteum or a thin layer of bone, and thrusting it downward through a transverse button-hole or tunnel made in the tissues covering the lower end of the nasal bones; to detach one of the nasal bones and displace it downward; to chisel loose the nasal bones and pry them forward; to cut the edge of the superior maxillary bone with a chisel and bend it forward.

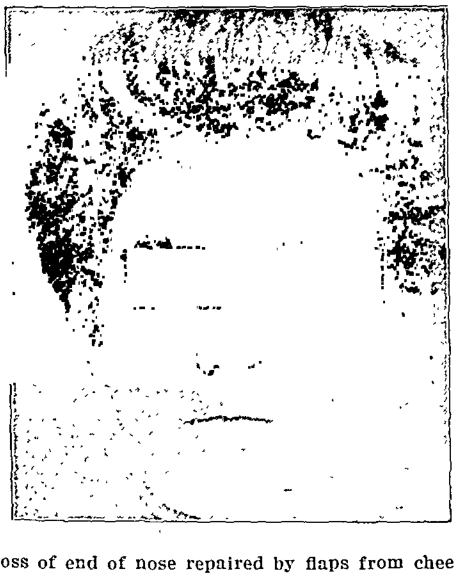

Fig. 5.—Loss of end of nose repaired by flaps from cheeks. [Same case as Fig. 4.]

If there is an opening in the hard palate, an obturator must be made to close it. In this event it might be possible to attach a long lever to the nasal surface of the artificial palate and let it hold up the flaccid new part of the nose. The end of this lever might be provided with a narrow pad to act as a sort of ridge-pole to the nasal roof; and the lever might be provided with a spring joint like that controlling the blade of a pocket knife. The patient could then adjust the obturator in the mouth and push the lever and its pad into position by a probe or hook introduced through the nostril.

Sunken noses not requiring such extensive operative treatment might perhaps be improved by two cheek-flaps turned up and thrust through subcutaneous tunnels extending from the sides of the nose to the middle line. This maneuver would fill up a slight hollow on the dorsum of the nose. It might be utilized also in congenital saddle-back nose, which has a hollow in the dorsum of the organ.

Syphilitic noses in which much tissue has been lost must be treated by rhinoplastic operations, which will bring a sufficient bulk of tissue to give opportunity for modelling. The new tissue may be taken from the forehead, the cheeks, the arm, or the palm of the hand. A large flap from the abdomen or thigh may be attached to a raw surface made on the hand; and afterward be transferred to the face.

After a crude resemblance of the nose has been thus made, minor operations will shape it so as to improve the outline and fashion alæ and columella. The ala may be lined to prevent cicatricial occlusion, by a strip of mucous membrane cut from the inside of the upper lip, and thrust through a button-hole made in the upper part of the lip.

The incisions made in the plastic restorations of syphilitic noses may be free, and usually must be so; but the scars become in time scarcely perceptible. Even if they are evident to close observers, they are much less disfiguring than the lesion for relief of which they were demanded.

Many persons, both in and out of medical circles, believe that syphilitic nasal deformity is incurable. This is an error and should be combatted by practitioners everywhere. Aseptic methods, carefully planned and well-executed operations, and judicious after-treatment hold out the same hope of benefit as in other departments of surgery. The degree of benefit varies only with the complicated character of the problem. Many patients may be very satisfactorily relieved of the greater part of the unsightly deformity; and there are very few who can not have their condition considerably ameliorated. It is sad to meet in one's daily walks so many deformed noses that could readily be improved.

1627 Walnut St.

Benefit Profits.—The *Muenchener Med. Woch.* devotes part of its profits every year to various benevolent organizations for members of the profession in Bavaria. Last year it distributed 4000 marks between the fund for widows and orphans of physicians and three other societies, with 200 marks to the building fund of the local medical society and 200 marks for a memorial to the late Dr. Aub.

THE MEDICAL TREATMENT OF PEPTIC ULCER.*

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The personal experience of any malady is apt to enhance the interest of a physician therein, and should not detract from his knowledge thereof. Thus I have been led to analyze my hospital and private records of cases of peptic ulcer, which, for perhaps fifteen years, I have treated more rigidly than do most physicians.

For diagnostic purposes, cases of peptic ulcer may be divided into three classes: 1. Those which are entirely latent and present either no symptoms at any time or first manifest themselves by hemorrhage or perforation. 2. Those with symptoms of indigestion not easily distinguishable from those of indigestion arising from other cause. 3. Those with diagnostic symptoms. The first class is not of therapeutic importance unless hemorrhage or perforation occurs, throwing them into Class 3. Careful study of the case in all its aspects may in like manner transfer a case from the second to the third class, that to which alone my remarks to-day are applicable—the class in which the diagnosis is reasonably certain.

The salient fact with special therapeutic bearing seems to me the presence of an open ulcer associated with and probably in a measure dependent on hyperacidity. The gastric ulcer is subject to two adverse influences—the irritating acid secretion and the unrest due to the periodical changes in the size of the organ and to the peristalsis. The duodenal ulcer is subject only to the former. In spite of these adverse influences, we know that healing may take place; but it would seem entirely reasonable to suppose that healing may be promoted by rest just as it is in every ulcer of the skin or mucous membrane which is accessible to vision. We have no means of knowing, in any given case, how large or deep an ulcer may be, or whether it is single or multiple. We know that surface ulcers of any depth or size do not heal in two or three days, and if the principle of absolute rest is worth being enforced at all in peptic ulcer, it is worth strict enforcement. Hence, I long ago adopted the arbitrary period of two weeks as a reasonable time to allow for the healing process and a fair average limit of toleration of exclusive rectal feeding. This period has been prolonged in two cases to five weeks, and has been shortened in others to meet the seeming demands of the special case. In a few cases rectal feeding has clearly provoked stomach unrest and vomiting. In some others the period of stomach abstinence has been shortened on account of the refusal of the bowel to retain or absorb in spite of varied coaxings. In most cases all discomfort ceases as soon as the stomach ceases to work, and there is usually no great sense of hunger. If discomfort persists or hunger is importunate, I give small doses—1/32 to 1/16 grain—of morphia once or more during the day. Incidentally I may allude to the happy effect of morphia in checking gastric hypersecretion. To fully realize this one must have himself experienced it.

I ordinarily give a large cleansing enema daily and nutrient enemata every six hours. Formerly I rarely gave more than six ounces of milk, or milk and egg—in either case with a pinch of salt—at a time. Lately, acting on the suggestion of Dr. G. G. Sears, I have found that in some cases as much as a pint of nourishment can be introduced and absorbed every six hours. For thirst I sometimes allow small quantities of water by the mouth. In other cases I have introduced water into the rectum or under the skin.

My two weeks' starvation treatment of cases of undoubted peptic ulcer was founded on *a priori* reasoning, which must always be checked and dominated by results of actual experience. The able and exhaustive analysis of Greenough[1] and Joslin, of 187 cases of gastric ulcer treated in the wards of the Massachusetts General Hospital from 1888 to 1898, throws important light on peptic ulcer in its various aspects. The subsequent history of 114 of these cases was ascertained. It appears that a larger percentage of cures was obtained in those fed by the mouth than with exclusive rectal feeding. This does not prove that the latter method was harmful, inasmuch as the rectum-fed cases comprised a larger proportion of severe ones, but it seems to show that there is no such advantage in absolute gastric rest as the considerations which led me to adopt it suggested as possible. One important suggestion, however, appears to result from the analysis of my personal cases, made with great care by Dr. W. H. Smith, to whom I wish to express obligation. Of 85 cases Dr. Smith succeeded in getting reports to date in 52. Of 63 cases treated by rectal feeding, the end result is known in 37. Of these 37, 18 were fed exclusively by the rectum less than ten days, and in 7 there has been a recurrence of severe symptoms. Of the 19 cases fed exclusively by the rectum for more than ten days, there has been recurrence in only one. Greenough's and Joslin's results nearly brought me to the point of abandoning my strict treatment. If careful stomach feeding is as safe, it is certainly quicker and pleasanter. But the marked contrast in frequency of recurrence, brought out by Dr. Smith in cases of more or less than ten days of absolute rest, encourages me to persevere until larger figures are at my disposal. As far as present figures go, they are strongly in favor of prolonged rest and are consistent with *a priori* reasoning.

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* Read by title in the Section of Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Am. Jour. of the Med. Sci., August, 1899; JOURNAL A. M. A., xxxiii, № 6, p. 534.

LAVAGE OF THE STOMACH AS A THERAPEUTIC AGENT IN THE TREATMENT OF HABITUAL CONSTIPATION. A PRELIMINARY REPORT.*

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The application of remedial measures to one healthy organ for the relief of diseased conditions in another organ has been practiced from times immemorial. Counterirritation is probably the prototype of all such procedures. Dr. Fenton B. Turck, Chicago, has recently reported the results of his experiments in the treatment of diseases of the intra-abdominal viscera through the colon. The washing of the bowel for the relief of various acute disturbances of the stomach and other organs is a measure used not alone by physicians, but by almost every mother all over the world.

Does the washing of the stomach have any influence upon the relief of intestinal disturbances? The answer is in the affirmative. Lavage of the stomach is indicated as a therapeutic measure in the following intestinal disorders: 1. Constipation due to excessive acidity of the stomach. 2. Constipation due to gastric atony. 3. Diarrhea resulting from excessive production of mucus in the stomach. 4. Obstruction of the intestines from whatever cause: "By lavage we relieve the upper portion of the bowel from the pressure and weight exerted by the contents of the stomach and, having relieved the pressure, the part of the bowel which lies above the constricted portion empties its contents into the stomach and thus lessens still more the general tension."[1] 5. Habitual constipation. The first four indications are self-evident and do not require any extended commentary. The fifth indication, habitual constipation, of which I claim to be the originator, until some one will claim priority,[2] requires a few words of explanation. I have "stumbled" upon this discovery. I have noticed in a number of patients who suffered from some gastric trouble accompanied with constipation that, after I had used lavage on them, they reported the following day that they had a natural movement of the bowels, "the first in many years." With the increase of the number of such cases it dawned upon me that there might be some relation between the washing of the stomach and the movement of the bowels. Instead, therefore, of only removing the stomach contents on the second day of the examination, I made it a rule to also wash the stomach in all cases of constipation. The results were surprising. Later, I applied this measure to the treatment of habitual constipation in patients who were free from any gastric disturbances. In a large percentage of such cases the results were highly gratifying.

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I am at present studying the physiologic basis of this treatment, and will reserve the report of my conclusions for a future occasion. As a preliminary communication I wish to call the attention of the profession to the following statements: 1. A certain percentage of individuals suffering from habitual constipation are apt to have a spontaneous movement of the bowels the following day after the stomach has been washed for the first time. 2. The majority of such patients will eventually recover the normal function of their bowels, if lavage is continued daily for two or three weeks, and later at greater intervals. 3. The best results are obtained from using cold water, or hot and cold water alternately. 4. The best time for such lavage is one hour before breakfast.

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[1] Spivak: Med. Treatment of Intestinal Obstruction. Journal A. M. A., May 27, 1899.

[2] Since this paper has been presented, there appeared an article by Oswald Ziemssen, entitled "The Stomach-Tube as a Peristaltic" (Berliner Klin. Woch., Aug. 13, 1900), in which the author claims that the daily use of the stomach-tube with lavage is a valuable stimulant to peristalsis, and an efficient means for curing chronic constipation. I am glad that the number of observers has doubled. Notwithstanding the fact that Dr. Ziemssen's article was printed first, yet, since my article was presented in June, 1900, I still claim priority.

Extraordinary Fecundity.—According to the *Medical Age* of March 25, one of the Italian journals has recently recorded an extraordinary case of fecundity of which it guarantees the authenticity. Flavia Granata, who it appears is well known at Rome, has recently given birth to her sixty-second child. This woman is now 59 years old. She was married at 28, and has successively given birth to a daughter, then six sons, then five sons, then four daughters, and then a long series of twins annually, and ended recently by having four sons.

WHAT DRUG STANDARDIZATION MEANS FOR THE PHYSICIAN.*

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BALTIMORE, MD.

In the early decades of this century medicines were very simple, and of the many herbs, roots and barks that were used, few if any had their virtue attributed to any definite chemical that they contained. As early, however, as 1805, Stürner, a German pharmacist, isolated morphin from opium and termed it *sel essentiale opii*. The result of this epoch-making discovery was not to establish drug assaying, as would appear likely, but instead a great interest in the isolation of the alkaloids from drugs and the chemical study of these alkaloids. The leading pharmacists of the day were developing as chemists, and looked upon the problem of alkaloids from the chemical standpoint almost entirely. The problem was to isolate the alkaloid, determine its composition and, if possible, its constitution. Although medical men used the resulting alkaloids in their profession, it did not occur to any of the pharmacists of the time to standardize the drug by determining the amount of alkaloid it contained. Among the great physicians of the early decades of this century there was one, however, who was in advance of his time in this connection, and that was Claude Bernard who, when the *sel essentiale opii* was promulgated as a *fait accompli,* was sufficiently impressed as to its importance to announce that, inasmuch as it appeared that this morphin was the essence or active principle of opium, he predicted that the time would come when, by establishing the amount of these principles in drugs, physicians would be enabled to have at their command drugs whose strength of active principle would be known, and that it would be possible to accurately control the dosage and hence the medicinal effect of most if not all drugs. This was seventy-five years ago. So slow has been the development of this idea of Claude Bernard's, however, that, although alkaloids were known by the dozen during his lifetime, but three drugs in the U. S. Pharmacopeia of 1890 have an established standard of akaloidal strength, viz.: opium, nux vomica and cinchona.

The cause of this anomalous condition of affairs is to be found in the fact that while pharmacy has during these years developed more as a trade than a science, chemistry entered, decades upon decades ago, the portals of the university and gained upon pharmacy enormously. Chemistry has taken hold of these alkaloids and not only given us their composition, but in almost all cases their atomical anatomy, i. e., their constitution. During all this time pharmacy has labored on, not as a science to any extent, but in colleges of pharmacy as a trade, the object being to turn out as many men as possible who could put up a prescription and pass a state board of pharmacy examination. I venture to assert that had the university opened its portals to pharmacy as it has to chemistry, notably in this country, the great majority of drugs would to-day be possessed of a standard of strength and their chemistry would be generally known.

But few of the many pharmacists who are graduated annually have any time or any desire to spend any time investigating drugs, and as a result the work that is necessary to enlighten us on the chemistry of the potent drugs is not forthcoming. The great trouble has also been that, so great has been the number of knights of the pestle set adrift in this country, with sheepskin in hand and no fixed position in life established, there has been undue competition in the profession of pharmacy, and instead of being able to devote any time to investigation, even if the inclination were present, the entire time of the pharmacist is taken up in devising schemes to get the better of his numerous competitors.

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To turn now to the subject proper of this paper, let us consider what the standardization of drugs means for the physician. To-day physicians, in case of the majority of drugs, have no idea of the potency of the ones they are prescribing, and they must, as they do, rely on the good name and intentions of the manufacturer and the dispensing pharmacist. In case of opium, nux vomica and cinchona, they know that when they prescribe preparations of these drugs they can depend on getting the effects of a definite and invariable quantity respectively of morphin, strychnin and quinin. As soon, however, as they touch upon such potent drugs as digitalis, belladonna, henbane, aconite, ergot, cascara sagrada, rhubarb, senna or golden seal, they must take the word for the deed and assume that they are getting a preparation of sufficient strength to produce the desired effect. All that they are justified in assuming is that they are getting the effect of a fair, sound, average sample of the drug, but just how the same will measure up as compared with what they have used for another patient who got it at another pharmacy, they have but little means of knowing.

Let us take for instance digitalis. This is a drug that is almost universally used by physicians, and is also used in emergency cases, when the heart is involved, and prompt and decided therapeutic effect is counted on.

Then consider ergot. We all know how greatly these drugs vary in therapeutic potency and in content of active principle. The pharmacist has no official standard for either, and must use his eye and nose to decide whether the drug he is purchasing is, in his judgment, prime or not. Appearance is, however, no criterion whatever of drug potency, for many and many a time have I assayed beautiful, bright and bold digitalis leaves or ergot grains and found, to my surprise, that they contained far less active principle than did another lot of drug I had before me that was anything but prepossessing in appearance. From the bold, bright drug, an infusion would be made, or a tincture, by the pharmacist, and the therapeutic effect of only 0.15 per cent. digitoxin and 0.12 per cent. digitalin would be produced, while from the unsightly specimen aforesaid the therapeutic effect of 0.38 per cent. digitoxin and 0.25 digitalin would be obtained, i. e., the dull digitalis would produce twice the effect of the beautiful, bright sample, on the heart of the patient. The same may be said of ergot, where, if possible, more trustworthiness and uniformity are desirable, due to the greater emergency nature of the drug than in case of digitalis. One lot of ergot is by no means necessarily equal in content of active principle, and consequently in therapeutic effect, to another, and any fluid extract used in filling physicians' prescriptions in one pharmacy may be as widely different from that obtained in the nearest adjoining pharmacy as 0.05 per cent. differs from 0.35 per cent.

The great disadvantage to the physician lies in the fact that, except in case of opium, nux vomica and cinchona, he has absolutely no assurance that when he prescribes any preparation of a vegetable drug he will get any trustworthy therapeutic effect from it. In fact, he may expect almost any effect, from none at all to the effect of an overdose; for actual experience in assaying vegetable drugs has shown me that some lots of drugs contain unusually large amounts of active principles, in fact sufficient to make a large normal dose a poisonous one. The mere fact that the actual alkaloidal strength of most galenical preparations of the U. S. P., as they are standing to-day on the shelves of the thousands of pharmacies of this country, is sure to vary within wide limits, and does naturally so vary, ought to cause every physician, who knows what assaying a drug and having a fixed active principle strength for all drugs is, to be very emphatic in insisting that the U. S. Pharmacopeia should set up definite standards for all vegetable drugs that have any therapeutic value at all. As the case now rests, the therapeutics of the vegetable drugs to-day is nothing more than the casting of a die or the flipping of a penny. "Heads," I get a therapeutic effect to speak of; "tails," I get practically no therapeutic effect.

Many manufacturing pharmacists and chemists of this country have set up standards of alkaloidal strength for many of the vegetable drugs, and their preparations of these same drugs may be relied on to produce at least uniform results themselves. They reach a conclusion as to a drug standard of alkaloidal strength, by assaying many typical samples of the drug and using the mean of these assays as a standard, embracing in these figures also the published assays of as many other pharmaceutical chemists of note as they can. While this is better than no standard, inasmuch as all the fluid extracts or tinctures made by that one firm will always be uniform, yet it is far from being what is desirable and necessary. What is wanted is to have a national alkaloidal standard for the drug, and then have all manufacturers and retailers have their preparations of this strength. Then the physician may depend on geting uniform and satisfactory results. It is manifestly impossible for the Revision Committee to establish standards for all vegetable drugs at once, but if they feel that the desire of the medical profession throughout the land is to have standards established, they will see that for all drugs that can be standardized to-day standards will be established in the next edition of the pharmacopeia.

To be specific and no longer deal in generalities, what is meant by a therapeutic standard for a drug, and how can the same be determined? A therapeutic standard of a drug or the preparation of a drug is, in the first place, the adoption of a definite content of that drug in a certain active principle or principles which are known to have the same therapeutic effect as the drug, as for instance 5 per cent. of total alkaloids and 2.8 per cent. quinin for cinchona bark; 13 to 15 per cent crystallized morphin for powdered opium; 1.5 per cent. total alkaloids for fluid extract of nux vomica; 15 per cent. total alkaloids for extract of nux vomica, etc. In these cases all the fluid extract of nux vomica on the shelves of the pharmacists of this country, that is labelled U. S. P., contains 1.5 per cent total alkaloids, andl all the fluid extracts of cinchona contains 5 per cent. total alkaloids and 2.5 per cent. quinin, etc., and whether a physician's prescription is put up in Atlantic City, N. J., or in San Francisco, the therapeutic effect of these two drugs will be identical. For these three drugs the physician can rest assured that he will get identical results, practically, wherever his prescriptions calling for these are compounded.

How much more scientific for therapeutics and how much more satisfactory for physicians especially, and for pharmacist and patient as well, would it be if this could be said of all drugs? The chances of a patient complaining that the medicine did not work, or of the physician failing to get prompt results where prompt ones are necessary, due to full therapeutic strength of his medicines, would be reduced to *nil.* This is just exactly what drug standardization means for the physician.

To return to our specific cases, ipecac, golden seal, wild cherry, cascara sagrada, rhubarb, sanguinaria, ergot, digitalis, conium, belladonna, henbane, cannabis indica, aconite, etc., should be similarly standardized so that physicians can be positive that when they prescribe these and put U. S. P. behind them they will always get preparations, from all pharmacies, of identical therapeutic strengths. The exact standard in these drugs is arrived at by determining, from an examination of many samples of sound, prime drug, what the average content of the same in active principle is. If a drug of this active principle strength can be prescribed with safety in the doses given in standard works on therapeutics, and produce all the desired effects of the drug, it can and should be adopted as the therapeutic standard of that drug. Thus, in case of ipecac, 1.75 per cent. of total alkaloids; of golden seal, 2 per cent. hydrastin; of sanguinaria, 1 per cent. sanguinarin; of conium, 0.6 per cent. coniin; of belladonna root, 0.45 per cent. total alkaloids; of colchicum root, 0.5 per cent. colchicin; of aconite root, 0.5 per cent. aconitin, etc., might be accepted as the therapeutic standards of these respective drugs, because experience in assaying typical specimens of them has shown that this is the average content of the specimens that, when dispensed in the usual doses for drugs, will produce the full therapeutic effect thereof. There are some drugs of which the chemistry is not sufficiently advanced to justify us in stating that the therapeutic effect thereof is due to any one or two definite chemical substances, as, for instance, cannabis indica, cotton-root bark, culver's root, burdock root, lobelia, poke root, yellow dock root, squill, senna, senega, stillingia, etc., but it is only a question of time when these drugs will have their chemistry and pharmacology worked up, and we will then know to what constitutent or constituents each owes its therapeutic activity.

I would not have you think that this subject is incomplete and unworthy of the attention and confidence of the medical profession until all drugs shall be perfectly known and standardized. The principle I am arguing for is as good, sound and correct if only one drug is standardized as if all were standardized. Naturally, we can not standardize them all at once, or in five or perhaps ten years, but we can hope that we have the encouragement and cooperation of the medical profession in endeavoring to standardize them as rapidly as lies in our power. Especially would I have it clearly stated that, as nothing can be lost to the physician, and immeasurably much gained by the adoption of drug standardization, the members of the medical profession should lend the cause of scientific pharmacy and medicine the great impetus of their favor and encouragement by making it apparent that they favor drug standardization, and are convinced of its advantages to them and to medicine. The convention of pharmacists and physicians that recently met at Washington to appoint a committee and give the latter instructions as to the revision of the pharmacopeia, was quite decided in its favor of the more general standardization of the vegetable drugs of the pharmacopeia. It appeared to be the unanimous sentiment of the 188 or more delegates from institutions of pharmacy and medicine there assembled, that as many as possible of these vegetable drugs should be standardized, and the committee there elected will no doubt regard the subject of drug standardization as its most important duty. The view of the American Medical Association, as expressed by one of its representatives, that physicians would like to have the pharmacopeia contain a liquid and a solid preparation of each vegetable drug in it, and have these respectively in each case represent a like amount of the drug, was not favorably considered by the convention. The idea was to have all the fluid preparations represent, say 100 cubic centimeters 100 grams, i. e., a fluid extract, and then have no tinctures or more dilute preparations of the same drug. Similarly for solid preparations, have all solid extracts represent a uniform amount of the drug, say 100 grams represent 500 grams of the drug, and then have no stronger or weaker solid extracts of the same drug. The objection raised was that it was impracticable, as many drugs can not be made into liquid or solid preparations of the same strength as other drugs can be. This, however, has no bearing on drug standardization, as the latter depends on quantity of active principle, and the former depends on quantity of drug, which necessarily brings with it variation of quantity of active principle.

To sum up, drug standardization means that drugs shall always be uniform in therapeutic strength, and the great advantage of this uniformity to the physician is that he can always depend on obtaining definite and uniform therapeutic effects whenever he prescribes a standardized drug. It removes the element of doubt from the physician's mind, and places him on a sure footing in relation to his patients, while at the same time avoiding for the pharmacist any question as to the reliability of his drugs, and assuring the patient that he is always getting what the physician desired that he should get. Any achievement that thus makes for the advancement and improvement of all the parties in the highly important operation of administering to the ills of humanity must needs be a good achievement, and deserving of the approbation and encouragement of all concerned.

"Christian Scientists" Not Insurable.—In the March issue of the *Cleveland Journal of Medicine*, attention is called to the fact that the fraternal beneficial organization known as the Knights of Honor some months ago ruled that persons believing in the doctrines of so-called "Christion Science" would not thereafter be received into membership. "This action was taken because it was seen to be reasonable not to take any risks upon the lives of persons who refuse to avail themselves of the accumulated knowledge of medical science when they are ill. It is now learned that one of the greatest and most conservative life insurance companies in the world, the Mutual Life Insurance Company of New York, without making any parade of the matter refuses to issue policies upon the lives of 'Christian Scientists.' These facts are not noted to give these organizations credit for doing that which common sense and good business policy suggest, but to show the very fact that, viewed from the commercial standpoint, the 'Christian Scientist' and faith curist are recognized as persons who do not take average care of their lives. For insurance purposes they are being classed along with habitual drinkers and with those who follow hazardous occupations."

A VISIT TO "JESUS HILFE" OR THE LEPROUS HOSPITAL OF JERUSALEM.

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During a recent visit to Palestine it was my pleasure to inquire into the condition of the lepers of that country and pay a visit to the "Jesus Hilfe" Asylum. Through the courtesy of our American consul, I was most cordially received by the superintendent and physician in charge, Dr. Einsler, and conducted through the institution. Every available opportunity was given me to study the disease with a view of bringing home to the profession of Minnesota, where the affection at present exists, some information as to its prevalence in the Orient, where from time immemorial, so to speak, it has had its home.

Notwithstanding the fact that "Jesus Hilfe" Hospital is one of the best equipped of its kind in the world, and is an imposing stone building surrounded by luxuriantly blooming gardens, the average tourist is content to view it from a distance. In fact, it is somewhat difficult to secure the services of a dragoman who is willing to cross its threshold. The hospital is situated in the German settlement of Jerusalem, on the hillside, in full view from the main road leading to Bethlehem, probably a half hour's drive from Jerusalem, and commands a fine view of the surrounding country. The history of its origin and growth breathes the true missionary spirit, a brief account of which may be interesting.

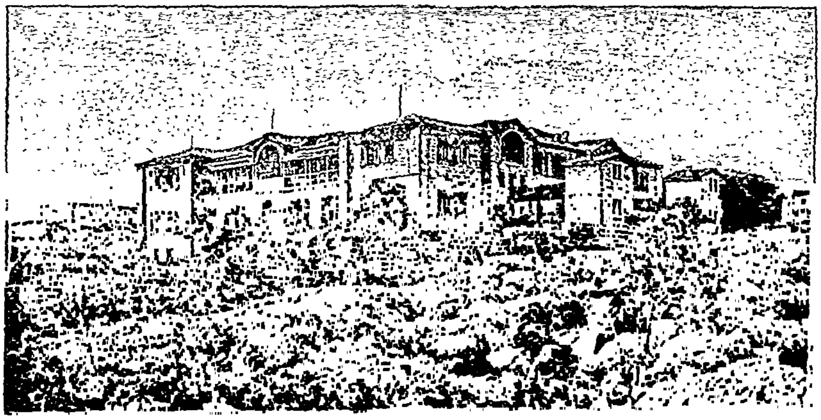

Fig. 1.—Jesus Hilfe Hospital.

ORIGIN AND GROWTH OF THE HOSPITAL.

In the year 1865, a Pomeranian baroness, von Keppenbrück, visited Palestine, and being deeply impressed with the wretchedness and misery of the lepers, made a liberal contribution toward the founding of an asylum for them. Working in conjunction with the order of the Evangelical Brotherhood, additional funds were obtained in England. A committee was appointed and a building erected near the Jaffa Gate, where lepers who came of their own volition were admitted. Years later, however, it was found that the building was inadequate to accommodate all who applied for admission, therefore plans were effected to erect the present hospital. Voluntary contributions were received from Germany, England, Switzerland and North America. In 1887 it was completed, and the inmates were transferred to the new building. A few years prior to this, however, the founder of this magnificent charity placed it under the management of the Brotherhood, and it has since become their absolute property.

MANAGEMENT OF THE HOSPITAL.

The Chapter House of the Brotherhood, under whose control the hospital is, is in the Kingdom of Saxony. They appoint the house parents and four deaconnesses who are trained nurses, and publish annually a statement of the disposition of the moneys received. A local committee composed of members of the German Lutheran congregation of Jerusalem has the immediate supervision of the institution. Most gratifying results have been obtained.

THE HOSPITAL INMATES.

Fifty patients can be accommodated and the hospital is sometimes taxed to its utmost capacity. On account of local prejudices, when a shelter was first provided, it was difficult to induce lepers to enter the hospital, but before the old building was abandoned twenty patients were enrolled. Unfortunately these poor creatures can only be carefully nursed and made comfortable until death ends their misery, as a cure for this loathsome disease remains still undiscovered.

Those who become inmates have their sores bandaged daily, are frequently bathed, furnished with comfortable clothing, fresh linen and nourishing food, besides being provided with space in the ward, in which are a bed, an easy chair and combination table and cupboard. They are not compelled to remain in the hospital for any given time, but as a rule they soon appreciate their improved environment and become attached to those who care for them and contribute to their comfort. They are not permitted to leave the grounds, beg or marry; neither are married lepers admitted. Through the house father they keep in touch with their friends, and at certain times are permitted to receive them. On pleasant days they sit about in the garden or on the roadside outside the entrance gate, amusing themselves playing draughts or other games.

Those having use of their hands and feet assist in the work about the grounds. Reading is a favorite pastime, and being read aloud to is considered a privilege. Mental obtuseness is not of necessity present to the extent that was formerly supposed. They are said to evince a keen interest in any occurrence out of the ordinary routine of every day life in the hospital, such as the return of an attendant after a vacation, and gladly contribute their best to the "welcome home," dancing the fantasia, etc., and for days talking of nothing but the coming event.

LEPROSY IN PALESTINE.

The number of lepers in Palestine is about four hundred, the village of Siloam, southeast of Jerusalem, alone having between thirty and forty. The government designates places for them in which to live, as they are excluded from social and family life. Institutions under Mohammedan jurisdiction accord them full liberty to wander about at will. They sit along the wayside singly or in groups, asking alms. The roads frequented by tourists are their favorite resorts, a large proportion of the Siloam contingency congregating at the foot of the hill leading to the Garden of Gethsemane and the Mount of Olives. Several of the accompanying photographs were taken from these groups. Since 1893 a residence has been set apart for children, the offspring of lepers, in which are a half dozen or more healthy boys and girls. It is hoped that in this way such offspring can be protected against the development and ravages of the disease by good care, proper training and nourishing food. The majority of lepers manage to eke out an existence by begging, and prefer their independence and alms to a residence in an asylum. The fact that their condition is aggravated by this mode of life, neglect and filth is self-evident, and beyond the appreciation of the average Oriental, who is content to habitually sleep on a heap of rags or a bundle of straw with perhaps nothing but a stone for a pillow and is oftener without than with a covering, shedding his garments only when in tatters. A beggar society was some years ago founded in Jerusalem among the lepers, with a president at its head, called a "sheik." Every leper who desires to become a member must pay an initiation fee with the promise to beg and contribute a certain portion of his income obtained in this way to the general fund of the society. Individuals who have no money or are too ill to beg are not accepted.

Fig. 2.—Deaconesses.

LEPROSY INVESTIGATIONS.

Dr. Einsler, the physician in charge of the hospital, is a Hungarian by birth, and about fifty years of age. For a period of sixteen years he has been identified with the asylum and is enthusiastically in love with his work. He is a keen observer and fully abreast of the times, devoting himself unceasingly to his laboratory, and prosecuting researches with a view to throw more light on the mooted questions of leprosy. It was my pleasure and privilege to have several personal interviews with Dr. Einsler regarding his long experience with the disease. He spoke of the mental and physical characteristics of lepers, and especially dwelt on the clinical aspects of the disease as it presents itself in Palestine. He holds the view that as yet it is not definitely known how leprosy is propagated, whether through heredity, contagion or infection, but he excludes contagion for the reason that no case has ever come under his observation that would lead him to believe in the theory, basing his opinion at the same time on the fact that people constantly mingle with lepers. Then, too, lepers always have been and are still allowed to wander through the streets or along the highway, transacting business, handling money, fruit, etc. He believes a peculiar susceptibility or predisposition exists primarily, and that heredity or infection plays its part afterward. And still, on this point he is not satisfied, because as yet the facts in his possession are not fully established, but he hopes that as bacteriologic investigations progress something more definite will eventually be ascertained. The lepra bacillus has been discovered and is now generally recognized as a special micro-organism giving rise to the malady.

I am able to show under the microscope a preparation quite characteristically demonstrating this bacillus, which was mounted in the "Jesus Hilfe" Hospital, the specimen having been taken from a pustular nodule on the face of a patient. Dr. Einsler believes that as soon as cultures are made and inoculations performed our information on the manner of communication will be more definite and the question will become settled. In his laboratory scientific investigations along this line are being made, and before long, he thinks, he will be able to publish tangible conclusions on the subject. In speaking of the usual early manifestations of leprosy, he said that the upper respiratory tract—the mucous membrane of the nose and throat—becomes affected. The turbinated bodies, the cartilages of the nose, the soft palate and the larynx are attacked. It is with considerable interest that I note this observation, because it concerns us who are specially engaged in the treatment of the diseases of the nose and throat.

The forms of leprosy as observed in Palestine are the nodular, nervous, and the mixed.

CLINICAL FEATURES.

The skin and the respiratory mucous membrane become affected. The face, the hands, the forearms, the ankles and the feet not unfrequently evidence the onset of the disorder. The skin is at first dry and glossy, while later appear small lumps or nodules, either in great or small numbers, which increase but little in size and often remain unchanged for years. This condition is called the small nodular variety of leprosy. Then again only a few nodules appear, about the size of a hazlenut. Frequently in this form there is present an intensely red discoloration or inflammation of the skin, resembling erysipelas or inflammation of the lymph vessels. Sometimes this condition is accompanied by a marked elevation of the body temperature, which continues for several days and is followed by an increase of the number of nodules. The discoloration of the skin does not limit itself to the nodules, but also involves the surrounding integument. It is not unusual for the nodules to degenerate when fever is present, which condition may be accompanied by a diffuse swelling and infiltration of the neighboring tissues.

The broken-down nodules generally heal and cicatrize, but, on the other hand, they may become associated in the necrotic process with others lying in the same region, in this way forming extensive suppurative areas which show no disposition to heal, thus eventually exhausting the vitality of the patient and causing death. It not seldom occurs that the nodular forms of the disease are both present in the same individual; so apparent is this that no trouble is experienced in determining their co-existence. Palpation is invaluable, because not infrequently the sense of touch is the only means by which to determine the presence of the small nodules, while the large ones are visible. There are instances where no nodules exist and nothing is to be seen but circumscribed thickenings of the skin, giving the characteristic appearance of leprous spots. Sometimes, owing to the existence of these circumscribed areas, the sweat glands perish and lose their function, thus giving rise to dryness of the skin. Those parts of the body covered with hair undergo a similar change, the hair bulbs degenerate, followed by dryness, brittleness and dropping out of the hair, eventually leaving behind a smooth, shiny surface. Examples were cited where the eyebrows or even the beard had thus suffered. At no time has it been observed that the hair covering a leprous skin has turned white.

Somewhat in a similar manner as that of the skin, the mucous membrane of the mouth, nose and eyes suffers. Nodules appearing on mucous surfaces are generally paler in color than the tissue adjacent to them. Mucous membrane nodules degenerate more easily than those appearing on the skin, a circumstance which is not quite understood. The fact perhaps is due to the nature of the irritant and the susceptibility of the membrane. Probably the character of the local irritant makes the difference. Yet it can not be disputed that the same morbid process is at work in the mucous membrane as in the skin.

Circumscribed swellings or thickenings are also characteristic of the mucous membrane. When these areas of acute swellings join similarly affected nodules lying in the same region, extension of the morbid process takes place and considerable destruction of tissue results. In grave cases the cartilages of the nose and the soft palate are destroyed. Extensive destruction of the palate usually forms a direct communication between the mouth and nose. The mucous lining of the posterior nares, nasopharynx and larynx may also be invaded by the bacillus of leprosy. When the larynx is affected, hoarseness and sometimes complete loss of voice are produced.

The tongue is not exempt. Frequently nodules appear in great numbers, whereby the tongue becomes thickened, uneven or fissured. In certain instances the gums swell and bleed as in scurvy. The teeth loosen, drop out or are easily removed. The eyes not infrequently become involved. The nodules appear on the upper surface or on the edges of the lids. Movement of the lids is interfered with and the fissure between the lids becomes contracted. Nodules seldom appear on the mucous membrane of the lids, while the mucous membrane of the orbit is frequently affected. The cornea is rarely involved. Generally the conjunctivæ are dry and brilliantly white. By and by there takes place a diminution of the luster of the sclerotic coat, which is gradually and surely followed by total blindness. Small nodules form at the edges of the sclerotic coat, forming, as it were, flaps of the mucous membrane.

The disease is not limited to the skin and mucous membrane; the lymph glands may become involved. The glands of the neck swell and inflame. Sometimes glandular suppuration takes place and gives origin to a continued discharge of pus.

Regarding the first stage of the nervous form of leprosy not much is known, because the individual seldom comes under the observation of the physician until long after the nervous system has shown signs of disturbance. It is only after the nervous affection has advanced that attention is drawn to it. The beginning period of the nervous form is characterized by spots appearing on the skin, accompanied by fever. Violent pains of the extremities, resembling more or less those of rheumatism, is a frequent symptom.

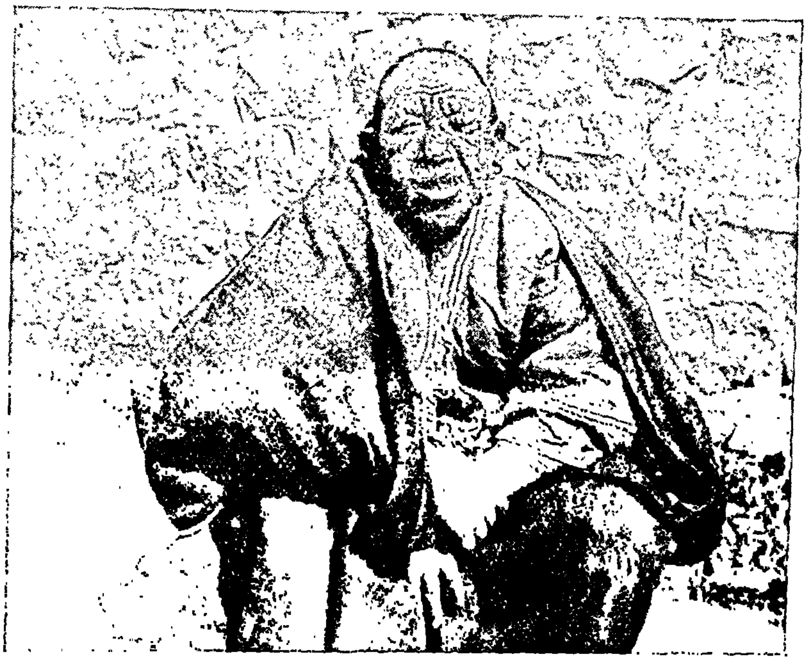

Fig. 3.—Lepra Leontiasis.

Extreme sensitiveness of the skin exists. The advanced stage of the nervous form is not marked by a change of the surface of the skin, except that now and then increased pigmentation is apparent and sensation is usually decreased. As the nervous affection progresses, sensitiveness diminishes, especially in the face and the extremities, which condition increases until entire loss of sensation is experienced or anesthesia of the parts is established. But even when anesthesia of the skin is present, the deeper structures are still sensitive to pain. In some cases the peripheral nerves assume spindle-formed thickenings. Amputations sometimes are rendered possible in consequence of the anesthesia and a general anesthetic is not needed. The incision of the skin is unaccompanied by pain, but on the other hand, separation of the deeper layers of tissue is attended by violent pain.

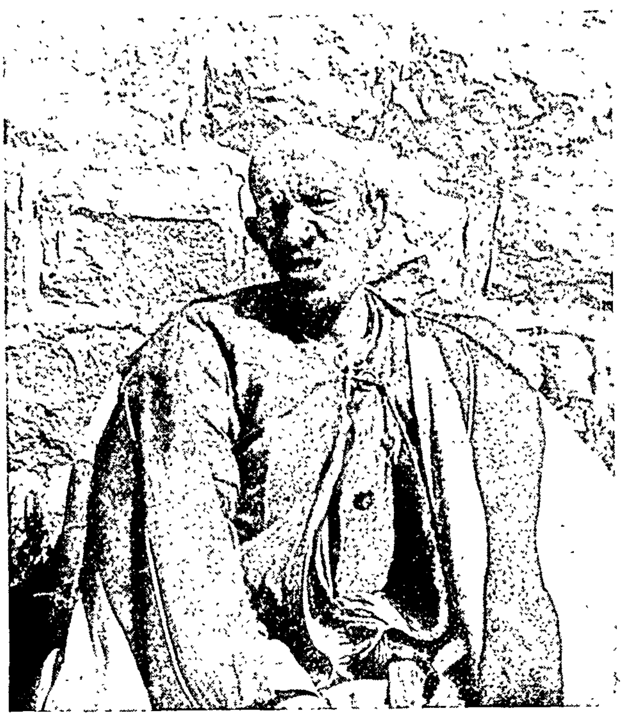

Fig. 4.—Anesthetic Facial Leprosy.

The muscles undergo certain changes. Their tendency is to grow smaller in circumference, but they do not disappear. It is apparent, not true atrophy. The muscles of the face, the hands and the feet undergo the atrophic process. The face assumes a peculiar, staring countenance, expression being entirely lost. The eyes can not always be closed, or only partially so, in consequence of which, through mechanical influences, serious trouble may arise, often inducing complete blindness. The muscles of the palms of the hands and of the soles of the feet do not atrophy.

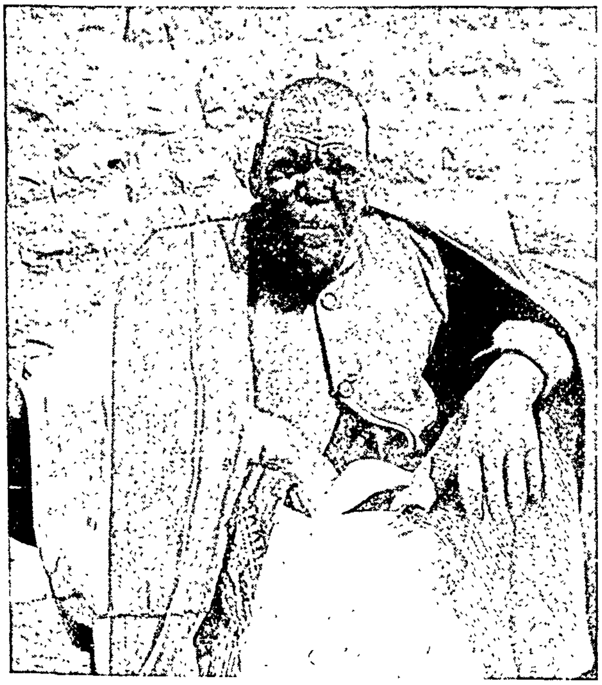

Fig. 5.—Lepra Leontiasis.

Motility of the fingers and toes diminishes. Owing to the predominating strength of the contracting muscles, the fingers and toes contract or become clutched.

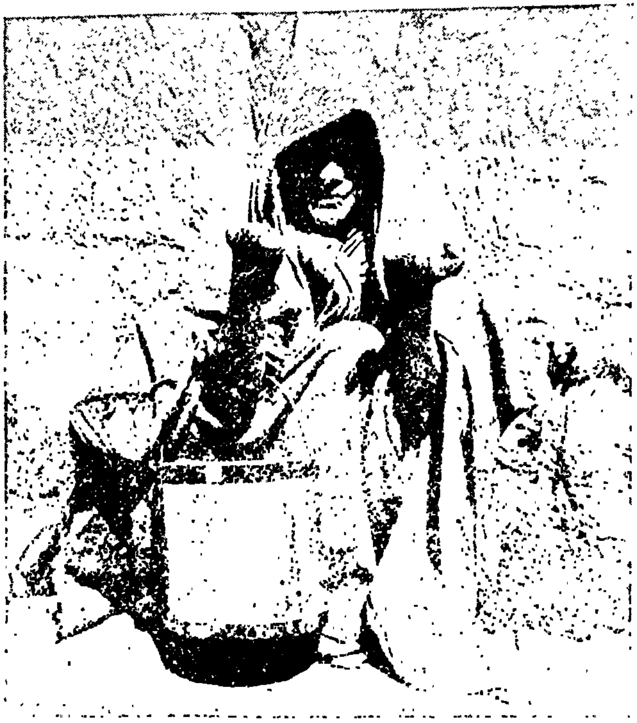

Fig. 6.—A so-called Healed Leper. Natural Process.

In the course of the disease the joints become affected and the loss of a finger or a hand follows. An illustration of this is seen in the photographs. The cause of the natural amputation, as it were, is explained as follows: Channel-like swellings form in the neighborhood of the joint, which begin externally and gradually extend deeper and deeper until the joint is destroyed and the member drops off, healing and cicatrization ensuing. This method of exfoliation is peculiar to the fingers and toes. Then again, inflammation of the joint, attended

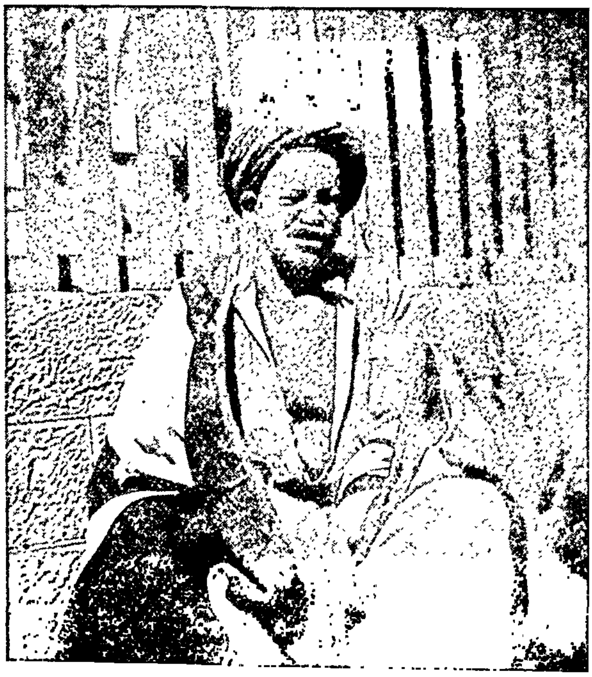

Fig. 7.—Early Stage of Leprosy of the Face.

by violent pains and fever, followed by suppuration and necrosis of the bone and final dropping off of the limb, is the case, in which instance healing, cicatrization and the formation of a stump take place.

Another form is periostitis of the bone of a finger, hand, toe or foot, whereby tumors, abscesses and sinuses form. By means of a sound, necrosis is usually detected. The suppurative tumor remains open until the diseased bone disappears, healing afterward following. The development of this form of leprosy differs in different individuals. Many of the patients remain apparently the same for years, because the atrophy and contraction of the muscles progress slowly. Therefore such a one goes for many years with contracted fingers and toes. On the other hand, when ulcerative processes are present, exfoliation often is speedily accomplished.

When the toes are severely contracted the patient is compelled to walk on the tips of the toes. In spite of the reduced sensitiveness of the parts, the leper may plead for amputation of the affected member. Accidents sometimes befall a leper suffering from the nervous or anesthetic variety of the disease. Incidents were related where the patient when reclining toward heated bodies became severely burned. The accident is often followed by marked sloughing of the parts and the formation of disagreeable cicatrices. Sometimes cases of burning arise where the leper is not conscious of the injury inflicted, the accident being recognized only by some one near the patient, through the detection of the odor of the burning tissue.

Fig. 8.—A Leprous Beggar Boy. Mount of Olives in Background.

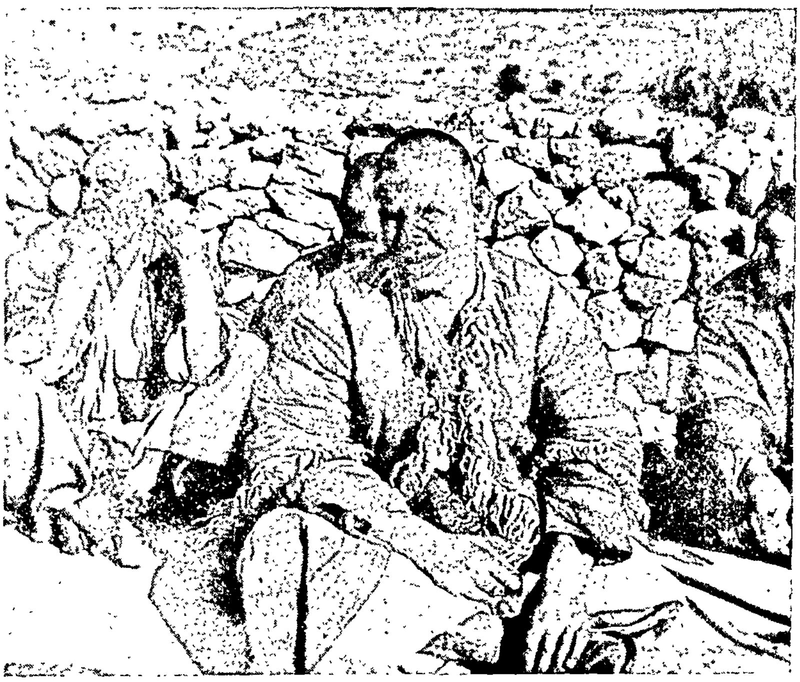

Fig. 9.—A Group of Lepers Along the Highway.

TREATMENT OF LEPROSY.

Respecting the treatment of leprosy, no specific is as yet known. All that it is possible to do is to make the patient comfortable. The average duration of life is about forty years. Some lepers live to be quite old, while others succumb to the disorder early. Extermination of the disease can only be brought about by confinement in hospitals and the intervention of marriage.

COMMENTS.

In comparing the results of my personal interview with Dr. Einsler regarding the behavior and clinical features of leprosy as it exists in Palestine, with the clinical account given by Dr. Hansen, the discoverer of the lepra bacillus, I find the general characteristics of leprosy in northern Europe accord with those peculiar to lepers of the Orient.

Permission was granted to take pictures of some of the inmates whose appearance, condition and history appealed to me as being exceptionally instructive. They convey a quite clear idea of the different forms of leprosy, especially the nodular varieties. With the aid of an interpreter brief histories were developed, an account of which I append.

DESCRIPTION OF ILLUSTRATIONS.

Fig. 1 is a picture of the "Jesus Hilfe" Hospital, giving a good idea of its location and architectural design.

Fig. 2 is representative of the four Moravian deaconesses who so faithfully nurse the lepers of the institution. They are intelligent, and thoroughly devoted to their life-work.

In conversation with the deaconesses in regard to their personal experiences with the lepers, I was deeply impressed by their zealous devotion to the patients and the risk of infection they were taking. But it seems they do not fear infection; they go about among the patients most courageously, performing the duties assigned them. They are in daily contact with the lepers, handling them, washing their clothes and dressing their sores. No case of leprosy has as yet arisen among them. Of the four now in the hospital, one has been employed thirteen years, one ten, one five, and the fourth one year.

Fig. 3 represents a man aged 30 years who has been suffering from leprosy for a period of three years. The disease first made its appearance on the face. One of the early symptoms was pain and unusual dryness of the nose, followed by external redness of the face when exposed to the sun, the discoloration later developing into purplish red. Nodules then appeared; no other part of the body at this time having been affected. The man is not married. So far as he knows leprosy did not exist in the family, nor does he know how he contracted the disease.

When I saw him the forearms and the lower extremities showed an eruption, the eyes and arms were anesthetic, but motion was not interfered with. The patient weighs 160 pounds, sleeps well, has no appetite and complains of more or less urinary and alimentary disturbance. Two tumors the size of English walnuts presented under the lobes of the ears, the left one being quite visible in the photograph. These tumors appeared one year ago. At the commencement of the disease impaired hearing was noted, but since the affection has become fully established the patient thinks the hearing has improved.

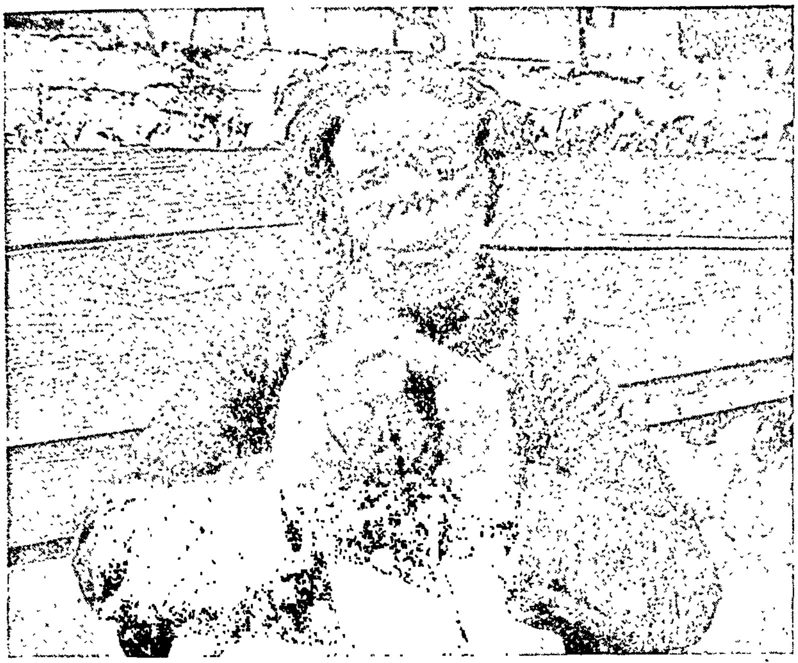

Fig. 10.—Advanced Form of Leprosy.

The left eye is affected. The eyelids are nodular, thus causing stiffness and a difficulty in closing them. Complaint is made of obstruction of the nose, which organ at present, externally, is nodular and purplish-red. In consequence of the intensely diffused infiltration and cicatricial tissue, the nose presents a broad and deformed aspect. Nose-bleed and hemorrhages from the mouth and throat are common occurrences. Soon after the first manifestations of the disease, soreness of the mouth and throat was complained of and caused considerable annoyance. At present the voice is very much impaired, complete aphonia sometimes being the case. Deglutition is difficult.

His face is almost black, or of a deep purple hue, covered extensively with nodules varying from the size of a grain of wheat to that of a small hazlenut. The nose, as has been noted, is thick, broad and nodular, while the upper and the lower extremities are covered with cicatrices. The hair, it will be observed, has disappeared from the eyebrows. The left eye shows the existence of an ulcer along the outer canthus. The upper and lower lips are both invaded by the disease, as is shown by their thickness, evidencing extensive infiltration of their structures. The hands and fingers are infiltrated and thickened. The case is typical of nodular leprosy.

Fig. 4 represents a man, also 30 years of age. He is married, but his wife left him on account of his loathesome disease. He has no children, and his wife is not affected. He declares no trace of the disease is to be found in his family. He has been ill for six years and has had sore throat for three.

Unlike the previously described case, this man does not show so characteristically the evidences of leprosy in the face. What is most striking in his condition is the extreme involvement of the upper respiratory tract. His voice is entirely gone and he is enabled only to speak in whispered tones which are imperfectly enunciated and difficult to understand.

The disease of the air-passages is rapidly growing worse. Sleep is much interfered with, owing to impeded respiration. When lying down, he says: "I feel like a dead man." The nose is deformed and obstructed, with pain in the eyes and face. The hearing is unimpaired, his eyes sore, the sight of the right one being affected. The soft palate, on inspection, was found to be entirely destroyed and the larynx was undergoing destructive changes. The right foot is nodular and anesthetic. His arms are affected in the same manner. He complains of poor appetite and intestinal disturbances. The patient is losing ground rapidly and is expected to die soon.

Fig. 5 is representative of a leper, 35 years of age. Leprosy attacked him five years ago, since which time the disease has been running a rather rapid course. It first appeared below the knee of the right leg, and afterward extended up toward the thigh. The second year of the malady the left leg became similarly affected. At first, pain in the legs was a pronounced symptom, while later on anesthesia of the legs became manifest. Now pain and anesthesia seem to alternate. Two and a half years ago the nose became involved, characterized by nose-bleed and expulsion of

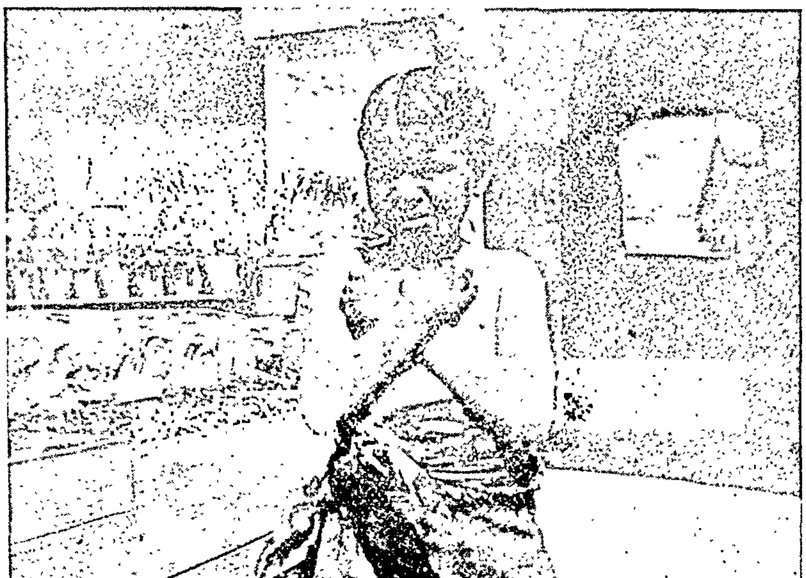

Fig. 11.—Early Period of Leprosy.

ulcerative products. Inspection of the patient, as well as of the photograph, reveals the fact that the nose has suffered materially. Deformity is present in consequence of a total loss of the triangular cartilage of the septum narium, thus giving rise to the depressed or broken-down state of the point of the nose. The man experiences trouble in swallowing and says he has had hemorrhages from the nose and throat. It will be noticed that the skin of the face and of the hands is thickened and infiltrated. Examination of the lower extremities showed the effects of leprous ulcerations.

Fig. 6 represents a leper beggar whose picture was taken outside the city walls, along the roadside. It is a woman, 21 years of age, who had the disease a few years previously. The only parts affected were the fingers and hands. The picture demonstrates, most interestingly, the peculiar behavior of leprosy, and shows conclusively Nature's effort in effecting a cure. The right hand has entirely disappeared, while on the left nothing is left but the thumb. It is a case in which the process of the disease has spent itself, and a temporary cure at least has been effected.

Fig. 7 illustrates a leper 22 years of age. His picture is introduced to demonstrate the early facial manifestations of the disease. Observation of the face shows the period of infiltration and discoloration of the skin without, as yet, nodular formations. Under bright sunlight this man's face turned a bright purplish-red.

Fig. 8 is illustrative of a leprous beggar boy 8 years old, who stands ready to receive alms, as is indicated by his outstretched hand. He is still in the early stage of leprosy, which is a family complaint, his mother having had it. Evidences of the disease became manifest two years previously, on the face, which on close inspection of the picture reveals the fact.

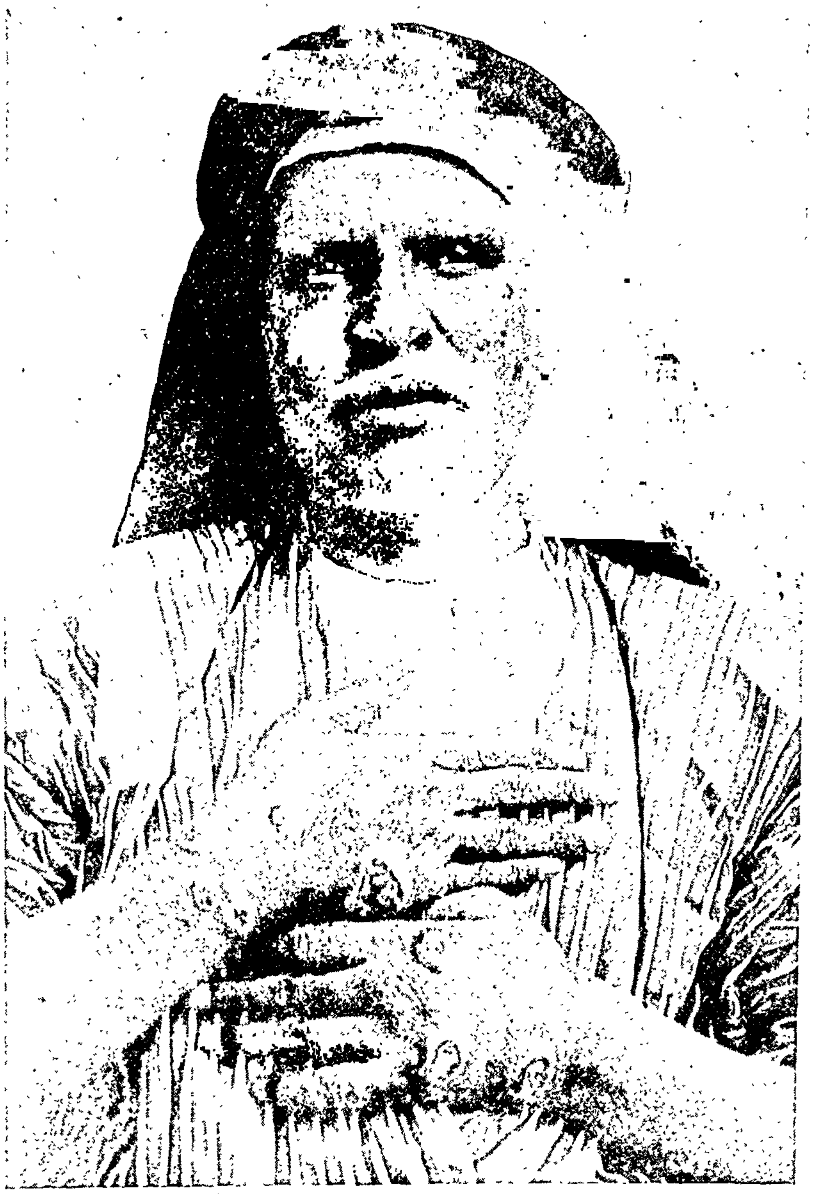

Fig. 12.—Large Nodular Variety of Leprosy of Face and Hands.

Fig. 9 presents a group of lepers taken along the roadside. Each of these four has a history peculiar to himself. The one on the extreme left lost his hands twenty years ago. The one on the extreme right became totally blind eight years ago. The two in the middle are not so far advanced. In two of these individuals excessive hemorrhages from the nose occurred on several occasions. They are Moslems and residents of the village of Siloam.

Fig. 10 is a case of marked development of leprosy of the face and fingers. The patient is a woman and, so far as she remembers, she has had the malady from early childhood. Her age is 25 years. As seen in the illustration, the nose and face bespeak and indicate how destructive the lesions of leprosy may be. The invasion of the nose has been great, much of it already having been destroyed. The face is covered with leprous nodules, the integument is infiltrated and thickened, which, in combination with the nasal deformity, constitutes a pitiable spectacle of human suffering. The patient is voiceless, both the soft palate and the larynx being very much damaged. The hands and fingers have suffered. Leprosy existed in the family.

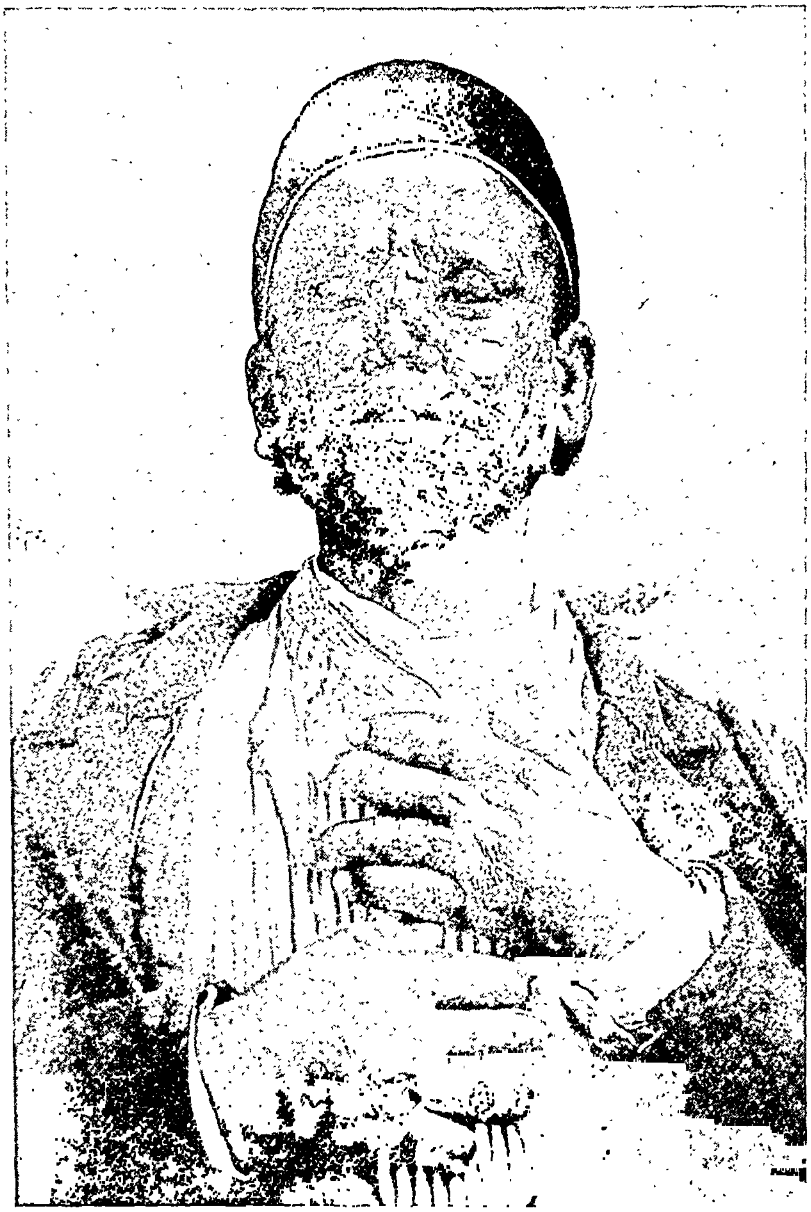

Fig. 13.—Small Nodular Variety of Leprosy of the Face.

Fig. 11 is the picture of a little girl, an inmate of "Jesus Hilfe." The child is 12 years old and has been afflicted for four years. At present there exists a nodular eruption of the arms. In addition to this symptom she suffers from an abnormally enlarged abdomen, which perhaps bears no relationship to the disease in question.

Figs. 12 and 13 are copies of photographs presented to me by the authorities of the hospital. They typically portray the ulcerative form of nodular leprosy. Fig. 12 is interesting. An excellent idea is given of the isolation of the nodules and their degenerated state. In Fig. 13 the face is characteristic of leprosy and illustrates the small nodular form of the disease.

COMMUNICATION OF LEPROSY.

Respecting the communication of leprosy, the following incident, related to me as being authentic, is rather curious and interesting: A physician living in Bogata, Columbia, S. A., after trying in every way to protect his family against leprosy, was very much astonished and grieved to find his wife in the first stage of the disease. After careful investigation to discover how she contracted the malady, he at last thought of the country woman who furnished the family with eggs. Going to her place he insisted upon inspecting the poultry yard. There, in a hole in the sand, was the woman's husband in an advanced stage of leprosy, amusing himself by throwing exfoliations from his body to the chickens, which they devoured greedily.

LEPROSY AND TUBERCULOSIS.

Owing to the fact that leprosy and tuberculosis are so nearly allied in many of their characteristics, for purposes of differentiation, I have microscopic slides of the bacilli of the two affections. The leprous specimen was obtained from Dr. Einsler and presents, most characteristically, the bacilli. A striking resemblance exists between the bacillus of the two diseases. The bacillus of tuberculosis is rather long and somewhat bent; this is not the case with that of leprosy. Some authorities think lepra bacilli stain much easier than those of tuberculosis, which accounts for the difference; on the other hand, it is claimed this can not be regarded as a distinction. "But the distribution of the bacilli in the tuberculous and leprous tissue is generally so very different, the tubercle bacilli being usually arranged singly, the lepra bacilli always in large quantities in masses and clumps, that a confusion of the two diseases anatomically can only be possible in exceptional cases."

CONJUGAL TUBERCULOSIS. A STUDY OF CASE TO CASE INFECTION.

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CHICAGO.

The notion of the contagiousness of tuberculosis is largely an *a priori* conception and not based exclusively on clinical evidence. It is only within the past two decades that it has been seriously considered by the medical profession, certainly in most countries, and until Koch's discovery of the tubercle bacillus it was, if held anywhere, at least a quiescent theory. Nowadays no one can reasonably question the fact of its communicability to a certain extent, since there is ample evidence of the fact of its occasional occurrence. The question remains, what is the proportionate danger of such occurrence, and does the incidence of phthisis depend so much on direct infection as on constitutional and hereditary predisposition? There is a tendency, of late very manifest, to magnify the former and correspondingly disparage the influence of the latter, and the hereditary element in the causation of the disorder, bids fair to be repudiated by the profession, or in any case to be comparatively neglected. It appears to the writer, therefore, that it might be worth while to collect what data are available to be at least suggestive as regards this question. If we find that ordinary exposure to tuberculosis is not necessarily or as a rule followed by the disease, it would be a fact well worth noting, and if we also find that heredity seems still strongly in evidence, both facts together would go far to reinstate the formerly held notions of etiology of the disease at the expense of the modern notion of its virulent communicability or contagion. There is some authority still for the opinion that direct transmission of the disorder is rare; Sir H. D. Beevor,[1] in a recent article, concludes from an analysis of the mortality statistics of certain English districts, that the local constancy of phthisis mortality does not indicate the action of such a disturbing factor as case to case infection. He also quotes other authorities who have noticed the same facts, among them Andvord who, from a careful inquiry into the tuberculous mortality of five Swedish towns for [illegible] six-
teen years, concluded that in like places [illegible] on-
stancy of lung tuberculosis points to no [illegible]
infectious illnesses, a view that Beevor hims [illegible]

It seemed to me, therefore, that if some o [illegible]
more direct statistical proof of this view c [illegible]
it would be of some value. An inquiry as t [illegible]
dence of lung tuberculosis in a class in which
mon heredity could be excluded and in which
bilities of contagion or [illegible] se to case comm
of the disease are at a [illegible] would appare
furnish facts bearing o [illegible]

If contact or association could cause the spread of pulmonary tuberculosis, there could be no more favorable conditions found for its transmission than the relations of husband and wife. If one of these is affected it would seem that with the popular teaching as to the contagion of consumption, nothing short of absolute immunity could save the other, the more so since we know that in hardly any case, and in none up to recent years, have there been any special precautions against contagion employed. Therefore, a study of the incidence of tuberculosis in married couples would have some value provided the facts were collected under the proper conditions. The first of these is that any series of cases fairly represents the aggregate experience or observations of the narrator. It is easy to collect exceptional facts that impress themselves upon us, but such are of no value in proving rules; what is wanted is a statement of all cases that conform to certain other requirements of the question. These are that: 1, there should be no question as to the facts, no conjectures as to diagnosis or other points, and 2, the observation should have been sufficiently prolonged to avoid the possible charge of insufficiency and consequent unreliability. It is easy to obtain accounts of apparent infection from husband to wife and vice versa, especially since the discovery of the tuberculosis germ; almost any general practitioner of long experience can report one or two. It is another thing, however, to obtain records of all the cases in one's observation in which one or the other or both have suffered, and to secure at the same time data meeting the above conditions. I have been able to secure thus far the following thirty-two cases, most of them in my own personal acquaintance, and the facts beyond any doubt as regards requirements stated above.

Case 1.—B. J., of good family history except that his father died young, probably not of tuberculosis, married M. C., of considerable neurotic and tuberculous taint. Three sons were born; the oldest died of tuberculosis at the age of 20; the father died two years later of the same disease, the mother following him a few weeks later, after having been recognized as consumptive for a longer time than her husband. The youngest son died of tuberculosis nineteen years later, and *the second son in an epileptic attack still later.*

In all of these cases there was no question as to the diagnosis and it seems probable that the husband was infected by the wife, though there was a history of something like a possible lung traumatism that may have had its influence.

Case 2.—D. J., the youngest son of B. J. and M. C. (see above), married J. L., whose family history so far as known was good, and died of typical tuberculosis some years later, the exciting cause unknown. There were no children. His wife, who nursed him through all his illness, did not contract the disease and after twenty or more years is still living in good health.

Case 3.—J. W., whose mother and one sister were supposed to have died of consumption, married M. F., whose family history is unknown. She has survived him twenty-one years, in good health. Their children are still living. J. W. died *in 1880, of well-marked, typical pulmonary tuberculosis.*

Case 4.—P. C. C., whose *family* history was unknown, died
[illegible] l pulmonary tuberculosis in 1861. His wife, H. C. C.,
[illegible] d any signs of the disease, and died in 1900 of
[illegible] cident to *old age.* Five surviving children are all

[illegible] F. J., whose family history was dubious as to
[illegible] losis, and with some alcoholism in the an-
[illegible] C., whose family history was supposed to
[illegible] rculosis, nearly twenty years before
[illegible] le decay at about 80. Of three chil-
[illegible] consumption before her father.
[illegible] er died of organic brain disease,
[illegible] berculosis within *two years of*
[illegible] was devoted to her, exhibited

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1. British Med. Jour., Au [illegible]

marked symptoms of the disease and was expected to follow her, but made a good and rapid recovery after her death. He is now, several years later, living and in good health.

Case 7.—H. F. J., whose mother died at an advanced age—over 60—probably of tuberculosis, married G. S., whose brother died of tuberculosis, and who followed him herself from the same disease a few years later. Her husband married again, and died suddenly a number of years later from the effects of alcoholism. He was never suspected of being tuberculous.

Case 8.—R. L. C., a physician of good heredity so far as known, lost his wife by consumption and was himself apparently far gone with the disease at the time. He had severe hemorrhages, but recovered rapidly after his wife's death, and lived many years.

Case 9.—W. F. C., another physician, lost his wife over six years ago from tuberculosis. While much depressed by his loss, he showed no signs of the disease so far as known. Her father had been consumptive, carried a lung cavity, recovered by change of climate, and died at an advanced age from another cause. W. F. C. is still living and in good health.

Case 10.—M. L., whose family history was generally good, died of tuberculosis after a long illness, during which he was cared for by his wife under conditions not specially favorable. She kept her health perfectly and is still living, over fifteen years later.

Case 11.—H. J. C., whose family history was good, contracted tuberculosis apparently following a rather severe thoracic traumatism. He was constantly nursed by his wife, who was a daughter of M. L. (Case 10), under depressing conditions. At the time of his death she was considerably run down in health, but there was no suspicion of tuberculosis, and she is now, ten years later, in good health.

Case 12.—T. E. W., a cornet player, whose family history was unknown, died eight years ago of tuberculosis, after a long illness. His sputum was full of bacilli for months. He lived in one room, most of the time sharing his bed with his wife, whose health continued perfect. She is now, after seven years, still living and in good health. Her family history is unknown.

Case 13.—J. A., with a fair family history—somewhat neurotic in the collateral line—died of tuberculosis, the exciting cause unknown. His wife is unaffected, in robust health many years later. Has married again.

Case 14.—W. K. A., whose family history was good, married A. M., whose family history was unknown, but supposed to be good. Her death from tuberculosis occurred many years ago; the husband, unaffected, has married again. Two sons are in good health.

Case 15.—A. B. S., a pharmacist, died after a protracted illness of tuberculosis. He was especially fond of having his children about him during his illness, but neither they nor his wife contracted the disease. All are in good health over six years later.

Case 16.—W. S., died of tuberculosis after a protracted illness, having been attended by his wife. She continued well and is, I believe, still living after thirty years. Her family history is unknown.

Case 17.—W. G. C., married C. A., whose family history was unknown. She died of tuberculosis. He is still living and well after many years.

Case 18.—W. C. R., whose sister was consumptive, died after several years' illness of tuberculosis. His wife, with a good family history, survives him in good health, over seven years.

Case 19.—A. B., married D. C., whose brother died of phthisis, but who had, as far as direct ancestry was concerned, a good record, both parents living to advanced age, one dying from carcinoma and the other from apoplexy. The stock, however, was neurotic and tuberculous in collateral branches. She died of phthisis; her husband survived her many years in good health and married again.

Case 20.—C. J., a first cousin once removed of D. C. (Case 19), died of tuberculosis lasting about a year. His wife is in good health seven years later.

Case 21.—E. G. S., died of tuberculosis. Her husband married again and is living thirty years after his first wife's death.

Case 22.—P. J. married N. S., whose family history was good. He died of phthisis. The wife is well four years later.

Case 23.—C. E. W., whose family history was good as far as known, died of tuberculosis. His wife is well over two years later.

Case 24.—A. H. died of tuberculosis, supposed to be started by trauma. His wife remained well, married again, and is still living after many years. One of her family is said to have died of tuberculous meningitis.

Case 25.—W. F. died of phthisis. He married the sister of the wife of A. H. (Case 24), who died a number of years later from la grippe; no tuberculosis.

Case 26.—A. V., colored, died of acute tuberculosis. His wife and children are well eight years later.

Case 27.—R. D., colored, died of phthisis, and his wife is living and well eight years later.

Case 28.—C. H. died of phthisis. Her husband is living and well five years later.

Case 29.—H. A. died of phthisis, and his wife is living and well several years later.

Case 30.—D. died of phthisis. His wife is well over two years later.

Case 31.—C. J., whose family history was good, married A. P., of a tuberculous family—father, mother and one or more brothers and sisters had died of phthisis. A. P. died of tuberculosis; the only child of the union died young of diphtheria. The husband is well after twenty or more years, and has married again and reared a large family.

Case 32.—E. F. C., a brother of Case 9, lost his wife from tuberculosis some ten years ago, and is still living, with no signs of the disease.

All of the above thirty-two cases were known to me either personally or through the other members of the families, and all meet the conditions stated above. At least half a dozen more might be added, the facts being reasonably certain, but not so absutely assured as in those enumerated. There was some possible uncertainty as to the health of the surviving partner a few years after the others, or the history of the fatal disease, though given as pulmonary tuberculosis, left a possible doubt as to the diagnosis. Some of these cases are interesting as regards the facts of hereditary predisposition, but I have thought best not to use them for the foregoing reasons. In all of them, however, the freedom of the survivor from pulmonary tuberculosis for several years was assured.

As before stated, it is easy to get isolated cases of apparent infection of husband or wife, but it is hard to obtain any large number of them in the observation of a single individual. It is also easier still to obtain accounts of cases where this did not occur. There is a difficulty, however, in obtaining the aggregate observations of any one physician on this point, and it is a good deal to ask of them that they should take the trouble to recall and record them. Dr. Norman Bridge, of Los Angeles, Cal., has, however, kindly furnished me with the following list of cases which he has been able to collect and vouch for as meeting the conditions of the inquiry:

1. A. W. K.'s wife died of phthisis, and the husband is well nine years later. 2. P. C. B.'s wife died of phthisis, and he died nine years later of Bright's disease. 3. G.'s husband died of phthisis, but she is well five years later. 4. V.'s wife died of phthisis, and he is well eight years after. 5. T. lost her husband from phthisis, and is well six years later. 6. E.'s wife died of phthisis, yet he is well five years later. 7. N. lost her husband from phthisis, and is well seven years later. 8. F.'s wife died of phthisis, and he developed the disease one or two years later and suicided. 9. F. lost his wife from phthisis, and is well six years later. 10. A. lost his, and is well two years later. 11. W.'s husband died of phthisis, and she is well ten years later. 12. W. also lost her husband therefrom, and is well three years later. 13. J.'s wife died from phthisis, and he is well five years later. 14. F.'s husband died from phthisis, and she is well ten years later. 15. T.'s husband also died from phthisis, and she is well eight years later. 16. E. lost his wife from phthisis, and is well two years later. 17. M. lost his, and is well four years later. 18. C.'s wife died of phthisis, and he is well five years later; has married and buried another wife with phthisis, and is well a year later. 19. B. lost his wife from phthisis, and is well three years afterward. 20. B.'s husband died from phthisis, and she is well seven years later. 21. B.'s died, and she is well ten years later. 22. G. lost her husband from phthisis, and is well ten years afterward. 23. F. lost hers, and is well two years later. 24. S. lost her husband from phthisis, and she is well eight years afterward. 25. N. lost her husband, also from phthisis,

and is well ten years later. 26. D.'s wife died of phthisis, and he is well two years later. 27. B.'s husband died of phthisis, and she died with the same disease two years later. 28. G. lost his wife from phthisis, and is well nine years later, and remarried. 29. Another lost her husband from phthisis, and is well eight years later. 30. M. lost hers from phthisis, and is well ten years later, and remarried. 31. W.'s husband died from phthisis, and she is well nine years after. 32. B. lost her husband from phthisis, and she is well four years later. 33. T.'s husband died from phthisis, and she is well nine years later. 34. A dentist lost his wife from phthisis, and he died three years afterward, also from phthisis.

Taking the whole of the above series together, certain interesting facts are at once manifest: 1. The comparatively small proportion of apparent direct conjugal infection. Out of a total of sixty-six cases we have only five of possible communication from husband to wife, or vice versa, and only three deaths, a proportion of less than one in twenty. This is the more remarkable in that it is far below the ratio of deaths from consumption to the general mortality, which is estimated by some as high as one in seven, and is probably not less than one in nine or ten at the best. It is true that the majority of the survivors of the pairs above enumerated are not dead yet, and some of them may die of consumption, but the present freedom from the disease does not speak for any actively contagious character of tuberculosis.

Another striking feature is the predominant figure of surviving wives. The wife would naturally be supposed to take more chances of contagion than the husband; she is generally the nurse and close attendant of her suffering partner. Here, however, we find 20 wives surviving their husbands, and only 11 husbands surviving wives (excluding No. 1) in my own series and 18 wives to 16 husbands in Dr. Bridge's, while 2 of the 16 died later of phthisis, and none of the wives. It is true that according to the more recent statistics in Great Britain (Newsholme[2]) the percentage of female mortality from tuberculosis is less than that of males, and the decrease of late years has been much more marked in the former, but this would not be sufficient to account for the condition here presented. So far as the facts appear, considering the probable greater exposure of the wives, they do not prove the extreme contagiousness nor communicability of pulmonary tuberculosis.

The cases of possible infection deserve a few remarks. In Case 1, of my own series, it seems probable that the husband was infected by the wife, or by the wife and the son who died before his parents. Here, however, there is the possibility of a lung traumatism having had some etiologic influence. In Case 8 of the same series, the husband was a physician, who for a time, to my personal knowledge, considered his case hopeless, and yet in spite of all the rational symptoms of phthisis, hemorrhages, etc., he made a good recovery. In Case 6 the symptoms were similar and the recovery even more rapid after the death of the wife. Such cases would appear to support the theories of contagion, but emphasize still more the fact of individual resistance; so soon as the influence of active infectious contact was done away with, the constitutional resistance came into play and the patient recovered. Another curious fact which, however, may be only an accident, is that in both series the cases of infection were exclusively from the wife to the husband. So far as it is indicative of anything it supports the other fact already noticed, of the excess of wives surviving husbands as favoring a lesser predisposition on the part of the female.

There was heredity in ascendants in at least nine of the married couples in my own series of cases, or in about 50 per cent. of those where the family history was known, and in two of these also in descendants. These figures only represent my personal knowledge of the family history, and are not exhaustive. In at least six cases the marriages were childless; in two there was direct ancestral—possible or certain—and in one collateral heredity on the part of the surviving husband or wife.

As already remarked, it is easy to obtain isolated cases of apparent contagion of phthisis, but not a large number from any one physician. Physicians of over thirty or forty years' practice in country towns, where practically every case of the disease during all that time came within their personal knowledge, could give only two or three clearly marked cases of conjugal infection from their experience, and only had a general impression that there might be more were the records available. One or two instances have been reported to me that would seem to indicate a special virulence of the infection or a peculiar coincidence of susceptibility or lack of resistance. The following, reported to me by Dr. N. M. Dodson, of Berlin, Wis., is one of this character. A. of healthy family lost his wife from consumption In two or three years he developed the disease himself, but in the meantime had married another wife with no consumptive family taint. She also contracted the disease and her death preceded that of her husband. In another case, reported to me by Dr. George H. Simmons, of Chicago, a mother attended her married daughter who died of phthisis, contracted the disease herself, apparently communicated it to her husband and one or more of her children, all dying. In this case, however, there would appear to be a family tendency, possibly on both sides, rendering them particularly liable to the infection.

Though sixty-six cases are but a limited material from which to draw conclusions, yet the fact that they represent the full experience of two observers make the data worthy of consideration. I regret that I could not obtain the experience of other physicians, but I do not feel like blaming a busy practitioner for not caring to take the trouble to go over his notes and recollections, and to verify them; it is a task, as I myself discovered. The facts as given are at least suggestive and, so far as they go, indicate a much greater risk so far as personal danger of acquiring tuberculosis is concerned from having a phthisical parent than from having a tuberculous husband or wife.

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[2] Elements of Vital Statistics, 1899, p. 237.

KELOID FOLLOWING TRAUMATISM.*

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Keloid, a term first applied by Alibert in the year 1814, to a pathologic condition known as an overgrowth of scar tissue, was so named by reason of its resemblance to a crab. The term is also applied to apparent fibrous outgrowths of the skin of a similar character, formerly believeed to be of spontaneous origin, but now the theory is accepted that they are results of lesions in the skin. This is said by some authors to be a somewhat rare disease and affects the colored races more than the white. It is commonest in middle age, but may occur in any age of life. Its favorite sites are the anterior superior sternal region, the shoulders and the neck, but may occur on any part of the body.

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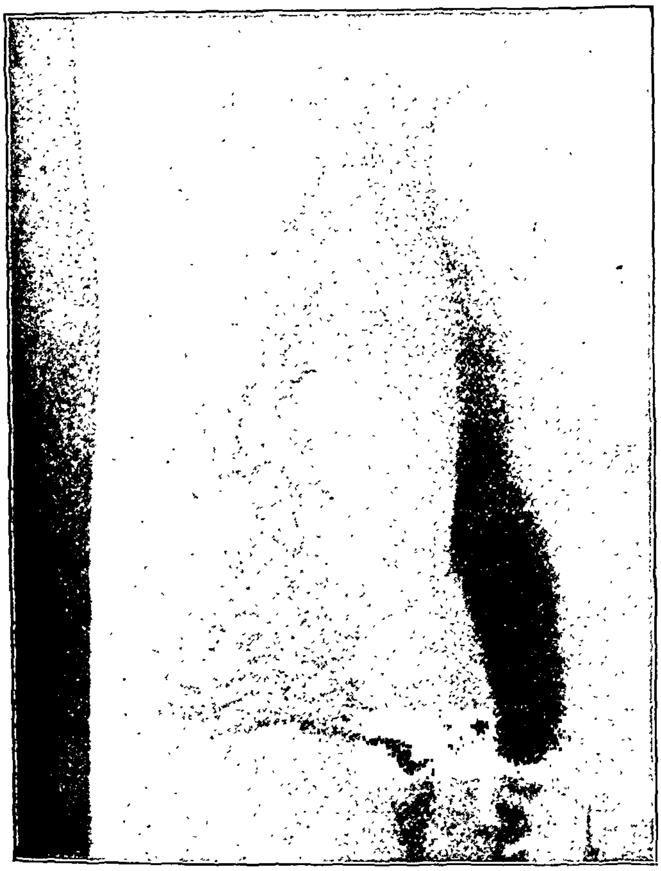
* Read at the Annual Meeting of the American Academy of Railway Surgeons, held at St. Paul, Minn., Sept. 5 and 6, 1900.

The so-called keloid of Addison forms contractions of the skin and the fasciæ, thus giving a hide-bound appearance to the part. It rises from no other perceptible causes than cicatrices or other injuries to the skin. Sometimes the growth is imbedded in and on a level with the surface of the skin, but more frequently it is elevated. It is very firm in its consistency and usually remains permanent through life. There has been an attempt by some authors to classify these growths as true and false in accordance with the manner in which their origin seems apparent. But such differentiation is not of clinical value nor is it of any consequence, as it is true that the histologic and anatomic elements are the same in each class.

The growth, in its incipiency, appears to be a flattened and firm, though somewhat elastic thickening of cicatricial tissue. It may cover a very small area of the surface of the body or may assume mammoth proportions. The surface of the growth is frequently a bright-red color or a pinkish hue, but sometimes paler than the surrounding skin. It is usually covered by a thin, smooth, and shining layer of epidermis, which is frequently easily detached. It is often painful on pressure, but may be entirely painless. The crests of the angular ridges over the surface of the tumor often have a tendency to ulcerate and bleed readily.


KELOID GROWTHS.

The rapidity of the growth is by no means symmetrical in all cases; sometimes its development is very slow, while in others it arises phenix-like and covers a large portion of the skin in a very short time. In a case of very severe burn or other severe injury the growth may or may not occupy the entire cicatricial surface. It is not uncommon for a growth of this character to make its appearance in the line of coaptation of the flaps after amputation and this form usually presents the appearance of a red, shining nodule, with an irregular surface, and from the base of the tumor various sized ramifications are seen extending into the healthy skin. This gives the base of the tumor an irregular, serrated, circular appearance. Keloids are most frequently found following wounds that covered over a large area and have healed by granulation with suppuration. The growth occasionally will have a rough, warty and sometimes scaly appearance with the base having a decidedly irregular outline.

The same person may have as high as twenty or thirty growths or may have but one. They are, however, frequently multiple and always non-symmetrical in size. B. Farquhar Curtis, of the New York Post-Graduate School, reports a case of a negress whose entire body was covered with apparently normal cicatricial tissue and presenting some of the usual characteristics of keloid. Hays reports a similar case.

It has been the observation of the author that both sexes are equally liable to attacks of growths of this kind and an apparent hereditary tendency has been noticed. In fact, families who have predisposing tendency to abnormal growths are often victims of the disease. It may occur in several members of the same family. The disease is not alone confined to the skin, but has been observed on the conjunctiva and even has been known to develop on the tongue as well.

The microscopic examination shows a more or less characteristic differentiation of these tumors with regard to their being of a special kind. They are made up of true cicatricial tissue composed of bundles of interlacing white muscular fibers running horizontally just below the upper surface of the corium. Keloid as a rule is devoid of papillæ, but if they are present they are usually perfect. The growth sometimes, however, infiltrates the corium and destroys the papillæ by pressure from beneath. In keloid which follows in the wake of a large wound, papillæ, sebaceous glands, and hair follicles are not present. The blood-vessels of and even beyond the margin of the growth show definite changes. They are surrounded by round cells which form a part of the adventitia. Fusiform cells are also found in close proximity to the vessels. Warren says that the keloid begins by a growth of round cells in some adventitia of the arterioles of the corium; these cells often becoming fusiform, finally developing into fibers and forming the tumor. Though the tumor may occasionally have a sarcomatous appearance it is not usually hard to differentiate keloid from other tumors of the skin or mucous membrane, as keloid has the characteristic cicatricial appearance, the irregular margins and the claw-like projections from the center of the growth into the healthy skin. Another point of differentiation is the tendency to recur after excision or apparent extirpation. In keloid proper the bundles of white fibrous connective tissue run parallel with the length of the growth.

Surfaces that have been denuded of skin or even deep integument by corrosive acids or alkalies are not uncommonly the sites of these growths. In fact, surface wounds of any description may give rise to the origin of keloid proper. There is no apparent specific reason given for the enlargement of cicatrices, but it is believed to be due in many cases to constant irritation of the surface.

Keloid, when located over a movable point, will often impair the motion of the member. It may encircle the mouth, nostrils, ear, eye, or any orifice of the body, and thus to a greater or less degree, impair the use, if not destroy the function of the member.

Some authors believe the growth to be of microparasitic origin.

Treatment.—The treatment of these tumors is very difficult. If complete excision is practical, a cure is imminent, yet the same predisposing tendency may promote the production of the second growth that was present in the first, and there may be a recurrence in the new scar where previous extirpation was apparently complete.

The Thiersch method of skin grafting is often successful in avoiding recurrence if excision has been complete. Scarification is worthy of consideration and in fact is often successful. The following method is commendable: Make parallel incisions over the surface of the growth the full thickness and about four lines apart. The incision should extend a short distance into the healthy skin. Cross incisions should be made likewise. For reasons apparent, in order to facilitate the operation, an ethyl chlorid spray should be used until the growth is completely frozen. Not only does this alleviate the suffering attendant on the operation, but the devitalizing effect of the process of freezing has a tendency to retard cellular activity and thus assist in arresting further development of the growth. The use of cocain for an anodyne is also commendable.

Electrolysis is recommended by Hardaway. This is accomplished by making numerous punctures in the surface of the tumor and also the surrounding skin with the needle. Care must be exercised that an extraordinary amount of electrical application may not set up an irritation and thus produce an increase in development of the growth. Firm or elastic pressure will sometimes tend to produce atrophy and thus lessen the size of the growth.

The constant application of flexible collodion, owing to its power of contractility, is said to be of benefit in reducing the growth.

Complete excision is the most rational treatment when practical, but care should be used that the flaps should be properly coaptated or, if this is not possible, the denuded surface should be thoroughly covered with skin graft.

Case 1.—A. D., a railway fireman, aged 22, a native of Ohio, of German descent, gave a negative history of specific disease. His health at the time of the accident was good, and his weight about 160 pounds. About January 13, while coaling an engine, as he opened the door the crown sheet gave way and gave vent to a terrific escape of steam from the boiler. He was severely scalded about the head and face, neck, shoulders, anterior surface of the chest, arms and legs. Some of the burns were of the third degree. Following the burn there was a large amount of devitalized tissue detached. About June 1 he passed from my notice with the wounds healed, and his condition fairly good.

About July 1 I casually stopped at his residence and found that on the anterior surface of the right arm a keloid growth had made its appearance. It was irregular in outline, its longest diameter from above downward was about six inches and the shortest diameter 2½ inches from side to side. The growth had the characteristic deep-red color and general appearance of keloid. The keloid did not cover all the surface of the arm that was burned over, but some of the claw-like projections extended into the healthy skin. The growth was firmly set in the skin and subcutaneous tissues, and elevated above the surface, at the highest point near the center about one-half inch. At several points on the crest of the keloid were small granular, ulcerating patches that were ready to bleed on the slightest disturbance. The patient complained of intense itching, especially at night. There was some contraction of the tissues between the shoulder and the elbow, sufficient to hold the arm in a semiflexed position. This I had not noticed during his convalescence. He complained of a slight pain and some stiffness of the muscles at the site of the growth. The burn in this region, as I remember, had extended down to the muscles. There were several small keloids near the elbow and on the outer surface of the forearm, having the same characteristic color as the one described. They were nonsymmetrical in size and form, the largest one being about one-half inch in its longest diameter.

The patient has resumed his employment. The disability produced by the stiffness and contraction caused by the growth is not sufficient to interfere seriously with the use of the member.

Case 2.—A mulatto girl, aged 15, a domestic, received a severe burn at the age of 12, over the outer and anterior aspect of the shoulder. About one year afterward, in the same region, a keloid developed that measured about three inches from above downward and 2½ inches from side to side. Complete excision of the growth and thorough coaptation of the skin with healing by first intention proved to be successful in eradicating the growth, and there has been no return. There was no history of syphilis.

Case 3.—Mr. A., a railroad fireman, about 30 years of age, was successfully vaccinated in December, 1899. At the site of the scar a keloid developed, oval in form, with regular outline measuring one inch in the longest diameter from above downward, from side to side three-fourths of an inch. The surface was elevated above the surrounding skin. The growth was a bright-red color and nodular, with small ramifications between the nodules and some extending into the healthy skin. Complete excision of the growth followed by coaptation and primary union was successful in this case and there are no signs of return. Prior to the excision the patient complained of stinging pains and occasionally itching sensations about the growth, especially after a hard day's labor. He also complained of some stiffness of the arm and inactivity of the muscles in the region of the growth.

Case 4.—Miss B., a ballet dancer, by some means came in contact with a natural gas fire, producing burns of the third degree on the posterior aspect of each leg, covering the entire surface from the hip to the ankle. Shortly after a very tedious healing by granulation, keloid occupied the greater portion of the cicatrices. The stiffness of the muscles, with the impaired motion of the knee-joint produced by the growth, owing to its firmness and contractile power, impaired the use of the members to such a degree as to cause her to abandon her profession. At the posterior surface of the knee-joint the motion of the knee kept up a continuous irritation of the abnormal tissues and there was an occasional fissure developing at this point, until she died with pulmonary tuberculosis three years afterward.

IMMUNITY AGAINST ZYMOTIC DISEASES.

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It is not my intention to enter into the minor details of the various theories that have been advanced in regard to the production of immunity; but rather to show how this immunity is probably acquired in the majority of cases aside from a description of the exact chemical changes in the organism itself. A brief consideration of the chief theories and factors, however, may not be out of place.

PHAGOCYTOSIS.

The presence of bacteria within the white blood corpuscles was first noted by Koch in 1878. These bacteria—bacillus of mouse septicemia—according to Koch's statement, penetrated the white blood-corpuscles and multiplied in their interior. Sternberg, in 1884, stated that it was not improbable that the white blood-corpuscles digested or destroyed bacteria. Metschnikoff further elaborated this theory, which is now known under his name. Metschnikoff divided phagocytes or devouring cells, into two groups: fixed phagocytes, such as endothelial cells, giant cells of tubercular lesions, etc., and free phagocytes. He did not, however, claim that all leucocytes were phagocytes, but divided the white blood-corpuscles into three classes, of which two, the macrophage and microphage, had the power of taking up and destroying bacteria, while the third, the lymphocytes, did not. While there can be no doubt about the ability of the leucocytes to take up foreign bodies, and bacteria must certainly be included among these, still there are many facts speaking against their power to destroy them. It is probably as Koch supposed in the case of the bacilli of mouse septicemia, namely, that the bacilli enter the blood-corpuscles and multiply in their interior. In gonorrhea and epidemic cerebrospinal meningitis the specific organisms certainly seem to thrive and multiply within the leucocytes. The leucocytosis found in many of the infectious diseases, while probably a defensive arrangement of the organism, evidently acts in a different manner than Metschnikoff supposed. Metschnikoff's theory has been widely discussed and still has many adherents; of late years it has, however, been superseded to a large extent by the interest taken in the defensive power of the blood serum itself.

Alexins.—This name was proposed by Buchner, for certain antiseptic substances found in extravascular blood serum which destroyed bacteria. According to Buchner, these substances are of an albuminoid nature. Hankin proposed the name "defensive proteids," for these. He divided them into two classes: Those found naturally in normal animals, which he called "sozins," and those found in animals that have acquired an artificial immunity, which he called "phylaxins." According to Emmerich and Loew, this antiseptic substance is a proteolytic enzyme or endoenzyme, as they called it. Both these substances—alexins and endoenzymes—are supposed to be non-specific and act on any species of bacteria. While these substances certainly destroy bacteria experimentally it is rather questionable whether they do so to any extent in the living tissues. The experiments of Lubarsch[1] speak strongly against their protecting power. Lubarsch found that while 1 c.c. of the extravenous blood of a rabbit—an animal known to be very susceptible to anthrax—destroyed 29,200 anthrax bacilli, 620 of these bacilli injected intravenously killed the same animal. On the other hand, Lubarsch showed that the dog, an animal very insusceptible to anthrax, even when considerable quantities of the bacilli are injected intravenously, had but a small amount of bactericidal substance in its blood. These experiments show that there is no connection between the natural immunity of an animal and the bactericidal power of its blood. As far as a natural immunity is concerned, we know no more now than we did in 1884, when Grohman[2] said, in his thesis, that: "In the plasma of the blood the organism *possibly* possessed a disinfecting medium." We now come to the subject of acquired or specific immunity.

Antitoxin.—That after passing through an attack of an acute infectious disease the animal organism is to a greater or lesser extent rendered immune against an attack of the same disease is a well-known fact. What causes this immunity, on the other hand, is something we know very little about. Experimenters have shown, however, that some substance is formed in the blood plasma that neutralizes the toxin of the specific germ. Just what this substance is or how it is produced in the body is still largely a matter of speculation. To this immunizing substance the name antitoxin has been given. The experiments of Ogata and others seem to show that it is a globulin. It may, however, be a substance of a different nature that is carried down with the globulin precipitate. Formerly it was believed quite generally that bacteria produced two poisons, one which produced the disease and later another which neutralized the first, both being a sort of secretion of the germ itself. Now, hwever, we know that while the toxin is a product of the bacterium, the antitoxin or neutralizing substance is formed in some way by the tissues of the invaded animal. As before mentioned, the exact manner in which this substance is formed is not known. Ehrlich, Baumgartner[3] and other German authors have, however, built up a very ingenious and plausible theory in regard to its formation, known as the "Seitenketten theory." According to this, we must form in our mind the following picture of a cell: A cell is composed of a nucleus or central group and numerous different atoms or filaments radiating from this nucleus. In order to understand this picture we must think of it not in a histologic, but in a chemical sense, the cell being in this case to be compared with a molecule of a complex organic substance composed of many different atoms. The poison or toxin formed by a given germ has a chemical affinity for a certain filament or atom of the cell and unites with it chemically. Through this union of an atom of the toxin with one of the filaments or atoms of the cell the poison is enabled to act directly upon the central group of atoms or nucleus of the cell. Sickness in a clinical sense depends on the impairment or destruction of the nucleus. If the action of the toxin is very strong the nucleus is destroyed. If, however, the nucleus retains its vitality, it will throw off that atom or filament which has been rendered obnoxious by uniting with the toxin, and replace it by a new one. This is a regenerative process of the cell; now, in regenerative processes as a rule more material is supplied than is needed in repairing the defect, therefore the same thing occurs in the cell. Several new filaments are formed to replace the one that has been discarded; as, however, only one is needed to complete the cell or molecule, those that have been formed in excess of the need will also be thrown off. These latter filaments or atoms floating in the blood constitute the antitoxin. They protect the body because they have a chemical affinity for the toxin. Therefore when the toxin again enters the circulation it enters into chemical combination with these discarded atoms, and in this way its capacity for harming the cells is destroyed. The blood serum of an animal containing such atoms, when injected into another animal, renders the second animal immune, as with the serum are also injected those atoms having the power to combine with the toxin. As this combination of the toxin with the cell atom depends on a certain chemical affinity, the immunity conferred must be specific, as the toxin of any other disease would have no affinity for this particular filament or atom. A different toxin would have an affinity for a different filament or atom out of the many that the cell possesses. This theory, while it shows how the toxin is neutralized, does not explain how the germs themselves are kept from multiplying. The followers of the "Seitenketten theory," just explained, believe themselves, as occurs with their toxin, namely, that the bacterium causes the discarding of a filament or atom having a chemical affinity for it, and that this discarded atom has an affinity for the germ as well as for a ferment-forming body contained in the blood serum.

This ferment-forming body, by uniting with the atom, gives rise to a ferment that in turn destroys the germ. So much for the chemical and histologic factors concerned in the production of immunity.

Let us now consider the matter from another aspect. It is a well-known fact that, during an epidemic of a contagious disease, only a limited number of those who are exposed contract the disease; the remainder for some reason or other appear to be immune. Various factors seem to be concerned in the production of this immunity:

1. *Race Immunity.*—As instances of this might be quoted the comparative immunity possessed by the negro of the South against malaria and yellow fever; and that of the white man against bubonic plague, when compared with the susceptibility of the Mongolian. No satisfactory explanation of this phenomenon is known.

2. *Hereditary Immunity.*—Occasionally persons will be seen in whose family a certain common infectious disease has not occurred for generations, although the members of each generation passed through one or more epidemics of that particular disease and took no special precautions to escape it.

3. *Immunity Conferred by a Previous Attack.*—This has been considered in speaking of the antitoxins.

4. *Age Immunity.*—As is well known, certain of the infectious and contagious diseases attack by preference persons of a certain age. Thus chickenpox and whooping-cugh are essentially diseases attacking children during the first decade of their lives, while typhoid fever and epidemic cerebrospinal meningitis are found chiefly in young adults.

5. *Immunity Conferred by Prolonged Residence.*—As examples of this we may cite yellow fever. Persons who have lived all their lives in a yellow fever region are less apt to contract this disease, and when they do contract it the disease usually manifests itself in a milder form than it would in a new comer.

6. *Temperament.*—This and the state of the general health are factors that appear to be connected with the susceptibility of a person to an infectious disease.

THEORY FOR IMMUNITY.

We have now briefly considered the chief facts known to influence susceptibility. In none, however, except in the case where a person has acquired immunity by passing through a previous attack, have we been able to find an explanation as to how immunity is really acquired. I will now take the liberty to present a theory which, although the fundamental facts upon which it is based are well known, presents them in a new light, and may possibly aid in dispelling the mystery surrounding this question. This theory is as follows: The majority of persons acquire immunity against the common infectious diseases through the agency of the specific germs of these diseases. The germs entering the body in quantities too small, or of insufficient virulence to produce a typical attack of the disease, but in sufficient numbers and virulence to form an antitoxin within the body, which protects it against a further invasion, Nature, thus protecting the majority of us in a similar manner against most of the infectious diseases as we now try to protect ourselves artificially against typhoid fever and cholera.

Let us now consider the facts upon which this theory is founded. First of all we must consider the protection against smallpox, afforded by vaccination, being the production of an atypical attack of smallpox which protects against a typical one. Before the introduction of vaccination, however, only a small proportion of the population were attacked by smallpox. Why did the others escape when, in those days, the entire population was exposed? The only plausible explanation is that enough of the virus was absorbed by those who escaped to produce an anti-body, but not enough to produce typical smallpox. The infection may have shown itself in the form of a slight illness, diagnosed perhaps as a cold or disturbed stomach or something of that sort. It is not even necessary that this immunization took place during the presence of an epidemic of smallpox. The germ of this disease probably can become attenuated to such an extent that it may be widely distributed in a community without there being any cases of what we call smallpox, although it may possess virulence enough to produce an antitoxin against true smallpox. Of course, in speaking of smallpox we can only consider the matter as a hypothesis, as the germ of this disease is not known, but as we know that other germs may be so attenuated as to produce immunity without the production of a typical attack, there is no reason why this should not occur with smallpox. The protection afforded by vaccination at least seems to indicate the possibility of it.

Yellow fever furnishes a good example of the application of the theory mentioned. It is a well-known fact that during an epidemic of this disease in the tropics, almost every new arrival from parts where the disease never prevails contracts it, while only a small percentage of the natives are so afflicted. How are we to explain this state of affairs? The germs are certainly virulent, otherwise the new arrivals would not contract the disease in its typical form. Some will claim the immunity is inherited through some ancestor who has had the disease, while others will speak in rather a vague manner about "acclimatization," without explaining further.

Acclimatization certainly has considerable to do with the production of immunity against yellow fever, and the way it acts is probably as follows. The germ of yellow fever is probably always, or almost always, present in the countries of the Spanish Main and certain other districts, and is also probably widely distributed. But it is not at all times virulent, only becoming so under certain conditions that we do not as yet fully understand. While it is only at certain times and under certain conditions sufficiently virulent to produce typical yellow fever, it is probably at most other times virulent enough to produce an antitoxin in a susceptible person. This production of an antitoxin may give rise to none or only very slight symptoms, just as the artificial immunization against hydrophobia and typhoid fever with attenuated virus gives rise to only a very slight reaction. Bacteriologists will be very apt to take exception to these statements and say: "If the germ of yellow fever is so widely distributed in those regions, it must sometimes be found in apparently healthy individuals and in the bodies of those who have died of other diseases." In all probability this is the case, and I think the finding of Sanarelli's bacillus icteroides in the bodies of persons who have died of other ailments than yellow fever speaks rather in favor of its being the cause of the disease, although Sanarelli's opponents deny this. It is absolutely unreasonable and illogical to suppose, as is now generally done, that the germ of a contagious disease must only be found in the body of a person having a typical case of this disease, and that finding it in other places shows that it can not be the cause of the affection. I believe that a good many of the inhabitants of Cuba carry the germ of yellow fever in the dirt under their finger-nails. It is probably not virulent, at least not enough so to give rise to typical yellow fever, but it is the specific germ nevertheless, and under certain conditions, can become virulent.

The same rule applies to the germs of most contagious diseases. They are not by any means limited to the person having the disease, but are comparatively widely distributed. Let us consider measles in the light of the theory indicated. During an epidemic of measles on the island of Savai, one of the Fiji Islands, described by Davies,[4] 1000 persons out of a total population of 34,500 died of measles, and not a single inhabitant escaped contracting the disease. This is only one example, as similar ravages have occurred from measules in the Sandwich and other South Sea islands. Again, in Savai the disease had never occurred before and the germs that were introduced came from a typical case. It is significant that not a single native escaped. as this fact shows that the measles' germ had never had its habitat on this island. In this country and in Europe a large percentage of people never contract measles, although practically every one has, at some time or other, been exposed to the contagion. Why is this? Reverting to our theory it is easy to find an explanation. The virus of measles is probably widely distributed and we all come in contact with it, but it is not at all times sufficiently virulent to produce typical measles, however, it is virulent enough that upon entering the body it produces an antitoxin that protects us against a typical attack.

I wish I knew how many of the ephemeral fevers that occur in childhood are in reality an immunizing process against some severe infection in later life. Probably a great number of them would prove to be such. Diphtheria is another contagious disease against which the majority of persons become immune without ever passing through a typical attack of the disease. Hermann, of New York, some time ago made an attack against the specificity of the Klebs-Loeffler bacillus, by claiming that the finding of this germ in apparently normal throats proved that it could not be the cause of diphtheria. There can be no doubt that the Klebs-Loeffler bacillus is sometimes present in normal throats, although not as frequently as Hermann's statistics seem to show. The presence of this germ in healthy throats does not prevent its being the cause of the disease, however. In the majority of these cases it is probably either not sufficiently virulent or not present in sufficient numbers to produce a membrane; but on the other hand it may, and probably often does, produce an antitoxin protecting the organism against a typical attack. Previous to 1892 typhoid bacilli were frequently found in Chicago's drinking water, and probably every native of the city, at some time or other, imbibed some of them; still, only a small percentage contracted typical typhoid. Among the students of Rush Medical College, a considerable number of cases of typhoid fever occurred during this period, but the great majority of them were among new arrivals from outside districts, while of those students who had always lived in Chicago very few were afflicted. How could this be explained? Again reverting to our theory, a plausible answer is that through the entrance, at various times, of small quantities of not very virulent bacilli, most of the natives had been rendered immune very much after the manner in which immunity is conferred artificially through the typhoid vaccinations.

The list of diseases to which this theory would apply could be extended considerably, but I will close the list with a few remarks about scarlet fever; as my best energies, during the past two years, have been devoted to the study of this disease in its different aspects. During the last two winters we have had an epidemic of scarlet fever extending over the entire city almost uniformly. It is safe to say that there was not a school building or a block of houses in the city in which no case of this disease occurred. It was no uncommon occurrence, especially in the poorer districts, to see children who had this disease, on the street, while scaling was still in progress. The contagion was practically everywhere. Still, not every one exposed contracted typical scarlet fever; the great majority escaped; because most of them had probably been previously rendered immune through a slight infection with the scarlet fever germ, which had not been recognized. Thousands of people have been immunized in a similar manner during the last epidemic, by contracting a scarlatinous sore throat. One of the chief arguments advanced against the specificity of the diplococcus scarlatinæ, is the fact that it was frequently found by certain investigators in normal throats and in other places where it seemingly did not belong. It was found in those places during the presence of epidemics of scarlet fever. I do not know how these investigators would have been certain that it was the diplococcus scarlatinæ which they found, as it appears that they went entirely by its microscopic appearance when grown on ordinary media; still, even if this were the case, it would not speak very strongly against this germ being the causative factor of scarlet fever, as the contagion was necessarily widely distributed in the city. As I said before, I think the germs of the common contagious diseases are not confined to the person having the disease, but frequently occur in other places, though those found in a patient having the disease are more virulent and therefore more apt to reproduce a typical attack in a susceptible person whose body they enter, while those from other sources would not do so.

Supposing that immunity is conferred in the manner indicated, it would be interesting to discover how the germs enter the body. Probably their mode of entry is similar to that which occurs in a typical attack of a given infectious disease. Thus, to produce immunity against typhoid fever the germs probably multiply in the gastro-intestinal tract. In yellow fever the germs probably enter by inhalation. In scarlet fever and the majority of the infectious diseases of childhood they undoubtedly have their nidus in the nasopharynx.

In this connection it might be well to anticipate a possible objection against this theory. It might be asked why is it "that very young infants seldom contract scarlet fever, diphtheria and some of the other zymotic diseases? They are certainly not protected in the manner mentioned in the theory." It must be admitted that they probably are not, but they are protected in a different manner. I have just stated that infection in childhood usually takes place through the nasopharynx. In very young infants the crypts of the tonsils where bacteria may lodge and the lymphoid tissue that absorbs them or their toxins are developed to only a slight extent; thus the bacteria are deprived of a suitable breeding-place and do not multiply, while even if they did multiply, they or their toxins could not enter the circulation. That this explanation is plausible will be readily seen if we remember how much more apt children with enlarged tonsils are to contract diphtheria, scarlet fever and measles.

By deducing from the facts known about zymotic diseases, I think the following conclusions are justified:

1. In districts where a certain zymotic disease is endemic the germs of this disease are comparatively widely distributed, although in a very much attenuated form. Epidemics are due to these germs becoming virulent either by repeated passage through the animal body, or in some other manner not as yet known. It is only after attaining a certain degree of virulency that they are capable of producing a typical attack in a susceptible person.

2. Immunity or insusceptibility against a given zymotic disease is usually acquired through the activity of the attenuated germ, which, although not capable of producing a typical attack, is still capable of producing an antitoxic body.

3. The presence of pathogenic bacteria in the normal body, described as a "latent infection" by Adami and others, is in accord with the theory formulated. These bacteria are probably an attenuated species, and their office is a beneficial one, as, through their activity, the animal organism is probably saved from a severe infection. The term "latent infection" is, however, a misnomer, since through this latent infection the possibility of an active infection is precluded in most cases.

Before closing I would like to state that a fairly careful search through the literature on immunity failed to show that the theory described had been anticipated by any one, although the idea is perhaps not original with me. Of course I may have overlooked some of the literature. I might also add that my remarks about yellow fever are not made from personal observation, but by deduction from literature on the subject.

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BIBLIOGRAPHY.

1. Lubarsch: Zur Lehre von den Geschwuelsten und Infectionskrankheiten, Wiesbaden, 1899, *p.* 218.
2. Grohman: Inaugural Dissertation, Dorpat, 1884.
3. Baumgartner: Berliner klin. Woch., July 2, 1900.
4. Davies: Australasian Med. Gaz., Sydney, 1894, xiii, p. 118.

YELLOW FEVER AND ITS TRANSMISSION.

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HAVANA, CUBA.

In an editorial in The Journal of February 23, I notice an allusion to some variances between my own views and those of Drs. Reed, Carroll and Agramonte on the subject of the transmission of yellow fever through the agency of mosquitoes. Lest this difference of opinion should be misunderstood or its purport exaggerated, I beg to make the following statements:

My readiness to accept the incontrovertible demonstration brought forward by those gentlemen as to the transmissibility of yellow fever through the agency of the Culex mosquito—wrongly assimilated, it appears, to the C. fasciatus—was a foregone conclusion, inasmuch as I had asserted and experimentally demonstrated to my own satisfaction the identical fact twenty years ago. This circumstance did not influence my judgment, however, in any degree, and only added to my admiration of the very perfect manner in which the recent investigation was carried out. I also have always supposed that this particular species of mosquito must be the natural agent of transmission through which the disease is normally propagated in Havana, probably to the exclusion of the other species, since its biologic requirements agree very thoroughly with the usual course of yellow fever epidemics in this city, whereas those of the other species do not. The point, however, has not been experimentally investigated, and it is quite possible that, in other yellow fever centers other species of that genus may be found to assume the rôle assigned to the Culex mosquito in Havana.

The most important and original discovery made by Drs. Reed, Carroll and Agramonte, in their interesting investigations, and that which, above all other considerations, entitles them to our warmest praise and congratulation, is the fact which they have brought to light showing that, under certain conditions which they have accurately precised, for the particular season of the year in which they were experimenting, it is possible to contaminate a mosquito through one single bite on a case of yellow fever, so that, after the lapse of a proper interval of days, a bite from the same insect will almost certainly develop a mild attack in the non-immunes whom the insect may thereafter sting, and the contaminated mosquito will retain that faculty during the remainder of its life.

The value of this discovery is, to my mind, inestimable, not only for having enabled the experimenters to produce absolutely convincing proofs of the transmission, but for opening the way toward a very great improvement in my former methods of preventive inoculations, so that we may confidently look forward to a process by which immunity will be safely conferred within a brief space of time to new-comers who may be willing to undergo the comparatively slight inconvenience of a mild experimental attack of the disease.[1]

Although this important discovery was made in accordance with precedents derived from certain known facts concerning the malaria infection, it does not follow that the germ of yellow fever must, of necessity, also be an animal parasite. The circumstance that, by allowing a certain interval of time between the contamination of the insect and the inoculation, the efficacy of the latter is undoubtedly enhanced, I had myself surmised, without taking into account that the germ might require to go through any special transformations within the body of the insect; my idea was simply that the prolonged contamination would allow the germ to multiply to such an extent that a more abundant supply would be secured for the salivary and venom glands of the infected mosquito. Regarding the curious fact that the contaminated insect retains the power of reproducing the disease during its life, this is not a privilege appertaining exclusively to animal parasites, since it is also observed with regard to the bacilli of leprosy and of tuberculosis in man.

As a practical demonstration that fomites, in the usual sense of the term, are incapable, per se, of conveying the yellow fever infection, the experiments at Camp Lazear were very significant and most ingeniously devised. The generalization of the principle is, however, only justified by the circumstance that the outcome of those experiments affords a direct corroboration of what actually occurs in nature, experience having repeatedly shown that in localities where the disease appears to be intransmissible—as in the City of Mexico, in Petropolis, and, in 1853, at Memphis, Tenn.—the fomites which should have developed around all the imported cases of yellow fever have been powerless to bring about its propagation. The only point, therefore, which remained to be proved was the fact that fomites which might be considered of the worst kind should likewise *fail to do* so even within the regular yellow fever zone, and that the very men who had been exposed with impunity to their action, would thereafter take the infection through the bite of a contaminated mosquito; all of which the experimenters have demonstrated to perfection.

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[1] The innocuousness of the method would still be grounded upon the same argument which I submitted to Captain-General Blanco, in 1881, when I solicited his permission for my first experiments with contaminated mosquitoes, and which at once appealed to his clear-sighted judgment. "If," I argued, "the mosquito is truly the indispensable agent of transmission which I conceive it to be, the mildest, recognizable attacks of yellow fever that occur in nature must be attributed to the smallest efficient dose of the yellow fever virus that may be introduced into the non-immune, a condition which ought surely to be fulfilled by applying only one mosquito which has only once before stung a yellow-fever patient." The great improvement which results by reason of the recent discovery consists in the facilities which it affords for obtaining direct evidence that the inoculation has been successful.

That not only fomites, but anything that might be considered as a possible receptacle for live mosquitoes, of the infectious kind, should be dealt with in a manner that would ensure the destruction of those insects is a self-evident corollary of the mosquito theory. Precautions should be taken even against the importation of dry eggs of the Culex mosquito into places where that insect is not usually found, lest a brood of those insects should develop during the summer season, thereby greatly increasing the difficulty of controlling the propagation of the disease if a case of yellow fever were accidently introduced.

My objection to some of the conclusions specified in the "additional note"[2] refers merely to their exclusiveness and to the hard and fast rules which have been set down without sufficient evidence in their support. I have elsewhere alluded to these objections as referring to matters of minor importance, and so they appear to be when compared to the all-important facts for which we are indebted to Drs. Reed, Carroll and Agramonte. From a sanitary point of view, however, they require to be looked into. If it be admitted that after the third day of an attack of yellow fever mosquitoes can no longer be contaminated from the patient, the inference must be that after that period it is quite superfluous to keep mosquitoes away from the patient, and if it were true that the contaminated mosquito can never transmit the infection until twelve or more days have elapsed since its initial contamination, non-immunes might visit with impunity, during their illness, the first cases that occur in a locality previously free from infected mosquitoes. I have, indeed, positive evidence to show that, in the summer season at least, those rules do not always hold true. A fresh mosquito was applied on August 13, 1883, to a hemogastric case of yellow fever whose attack had set in on the 8th; two days later, on the 15th, the same insect was applied to a second case of hemogastric yellow fever attacked on the 10th; finally, on the 17th, the insect was applied to a non-immune whose isolation from other sources of infection had been perfectly satisfactory; nine days later, on the 26th, this person was taken sick with a mild, but well-characterized attack of yellow fever, and subsequently resided over ten years in Havana without ever experiencing any illness which could possibly be referred to the yellow fever infection. This case, however, as well as a few others among my 104 inoculated subjects (1881 to 1900), merely shows that the rules set down by Drs. Reed, Carroll and Agramonte are not so absolute as they have imagined. With this reservation, I have no hesitation in admitting that the general principle which they have discovered and which, in their hands, has given such brilliant results, is the right one to work upon, especially when it is desired to contaminate the insect with only one bite upon a mild case and within the first days of the attack. It is more than likely, indeed, that the average time required for the complete contamination of the mosquitoes will be found to vary at different seasons of the year, and I feel certain that, when this point comes to be investigated, the minimum in summer will *occasionally* be found reduced to a limit as low as *two days* for the interval between the initial contamination and the date on which the insect may already be in a condition to reproduce a mild attack of the disease; in such cases, too, the period of incubation, according to my personal observations, is apt to extend beyond its usual limits of two to eight days. This circumstance may, perhaps, be accounted for on the supposition that the quantity of virulent germs inoculated in such cases has been so small that a prolonged incubation becomes necessary before their number can reach a figure which is capable of developing the outbreak of an attack. This diversity in the period of incubation might be considered another point of analogy between the yellow fever germ and the malarial parasite. Major Ronald Ross[3] himself having declared that "there is a well known period of incubation" (after the bite of the malaria-mosquito) "lasting from two days up to twenty, or even longer—the usual period being one or two weeks."

160 Campanario Street.

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2. JOUR. AM. MED. ASSN., Feb. 16, p. 431.

SOME TECHNICAL SUPPLEMENTS IN COMPLICATED ENUCLEATIONS.

M. F. WEYMANN, M.D.
ST. JOSEPH, MO.

Every neat operator takes pride in delivering an enucleated eye-ball as clean as a peeled onion, but now and then conditions arise which make this result exceedingly difficult, if not entirely impossible. Among the circumstances interfering with neat work are:

1. *Venous stasis and edematous infiltration of the integuments of the lids.*—The lower cul-de-sac is then almost effaced and does not hold a speculum, eversion of the inferior lid allowing the wire to slip. A Desmarres retractor is equally unsatisfactory, while a sharp tenaculum is apt to inflict damage. In such cases I have worked with the greatest convenience with the help of sufficiently stout suture threads. One is passed through the upper lid and another through the lower about 3 millimeters from the free border and near the center of the palpebral fissure. The ends of each suture are then tied, both to prevent slipping out and to afford a loop for the finger during retraction.

2. *Rupture of the eye-ball or ulcerative perforation of the cornea.*—All surgeons are familiar with the folding tendencies of a collapsed bulbus and the consequent liability of such folds to be cut by the scissors. This is especially annoying when one attempts the longest possible resection of the retrobulbar portion of the optic nerve, as the disappearance of a well-distended ball removes the only landmark from which to judge distance posteriorly by the touch of the scissors. I remember my keen mortification in one such case (practically the whole cornea had been carried off by a piece of flying bolt), where I cut the nerve, as I supposed, but delivered the remnant of the ball with a hole at the posterior pole large enough to admit a heavy pencil. To avoid such troublesome annoyances I apply two remedies, namely, *a*, suturing; *b*, intrabulbar injections. Whether ulcerative or traumatic, the perforations are closed by firmly tied stitches placed very near to one another. If the loss of the intraocular contents is only slight, enucleation may begin; but if much collapse exists, I inject normal salt solution. A very fine needle plunged obliquely through an uninjured portion of the tunics of the globe will not allow regurgitation after withdrawal. Occasionally the salt solution will escape on account of inefficient suture closing, either

from the nature of the wound or the fault of the surgeon. In such cases paraffin injections are most valuable. The paraffin should be sterilized by boiling, but not be injected too hot. A few drops of a sterile 1 per cent. cocain solution renders the intrabulbar tissues quite tolerant. It should be remembered, however, that the *paraffin syringe used must be kept quite hot and that the* lumen of the point should equal at least that of a good-sized lachrymal point, otherwise interminable clogging will discourage the operator.

External canthotomy is practiced by me wherever it seems to hold out any advantages during the work.

Special Article.

ON THE PLAGUE IN SAN FRANCISCO.

Since March 6, 1900, when the first case of plague was recognized in the city of San Francisco, THE JOURNAL has called the attention of its readers from time to time to the reports of further cases occurring there and has emphasized over and over again the necessity of more active and intelligent measures of suppression than those which, owing to the unfortunate disputes which have arisen among physicians and politicians in California, could be, under the circumstances, undertaken. Thanks to certain reliable correspondents on the Pacific Slope, we have been kept very fully informed of all that has happened there during the past year, especially of everything connected with the plague situation.

A PANICKY CONDITION.

The findings of the bacteriologists of San Francisco, confirmed as they were by the careful microscopic studies of one of the most skilled bacteriologists in America—Dr. Kinyoun, of the U. S. Marine-Hospital Service—the latter having made his other observations doubly sure by the obtaining of positive results from animal experimentation, led the Board of Health of the city to undertake active measures to wipe out the disease. For a short time San Francisco was in a somewhat panicky condition. The newspapers were alarmists; the general public and most of the physicians had had no personal experience with plague; the immediate dangers were overestimated by nearly everyone; it was believed by many that a general epidemic was imminent—and measures of suppression were resorted to, which, though shown by experience to have been in some respects too severe, in others imperfect or, perhaps, in the light of later knowledge in certain particulars, actually dangerous, were, when the time, place and state of knowledge of the subject are considered, those that the authorities there, or other authorities similarly placed, might naturally have been expected to undertake. The spread of the disease was positively prophesied; a rope was run around the thirteen or fourteen blocks which constitute the Chinatown of San Francisco; the Chinese were forbidden to pass beyond this rope into other parts of the city.

CHINATOWN QUARANTINED.

All sorts of difficulties arose immediately. A large proportion of the Chinese spend the day as servants among the whites, either in private houses or in hotels, and the quarantine not only deprived these Chinese of employment but also led to a most painful embarrassment of the whites, an embarrassment that can be fully appreciated only by those who are conversant with the high degree of dependence on Chinese service which obtains in San Francisco. The quarantine guard had to be hastily recruited; some of the men appointed were, perforce, unsuited for the positions they held and the city officials were accused, in all probability unjustly, of favoring political ward-heelers with billets, the accusers going so far in some quarters as to intimate that the Board of Health had instigated a plague scare partly to permit of the appointment of their political friends to remunerative positions, but more particularly to influence the disposition of several thousands of dollars then under consideration for appropriation. That the quarantine cordon about Chinatown was insufficient to do what was intended, viz.: to keep all the Chinese in Chinatown, there can be no doubt. Our correspondents inform us that despite the measures taken large numbers of Chinese left their quarters daily, appeared at their regular places of service, and returned to Chinatown to sleep at night—irregularities which they attribute partly to numerically insufficient force to man the rope, partly to the corruption of certain members of that force, and partly to the utilization of secret paths of escape over roofs and through underground passages to the world outside. Efforts were made to induce the Chinese to be Haffkinized, but as a rule without avail, even though immunity from quarantine regulations was offered to the inoculated. A murmur arose that the quarantine methods adopted ought really to spread plague if it existed, that the huddling together of all the idle Chinese, day and night, in Chinatown, with but imperfect isolation and disinfection of premises within the district in reality exposed large numbers of individuals unnecessarily to contagion. The Chinese became much disaffected; not only were a great number of them thrown out of employment but the Chinese merchants, dependent in large part upon white visitors to Chinatown for their trade, found themselves suddenly cut off from their income. Above all the great outbreak of disease prophesied did not occur. There were no more deaths in Chinatown than ordinarily; the Chinese ridiculed the idea of the existence of any unusual disease. The diagnosis of plague became doubted because the disease did not spread. Several physicians of the city, among them two or three elderly men of wide reputation, denied that the malady was plague and asserted that the health officers had been misled by certain glandular swellings very common among the Chinese and known to have existed in Chinatown for years.

MEDICAL OFFICERS ABUSED.

Dr. Joseph J. Kinyoun and the city Board of Health became the objects of newspaper venom and abuse. Nothing was too vile to be said of them; the most dishonorable motives were attributed to these men. The upshot of the conditions was that, on the application of Mr. Wong Chung, Secretary of the Chinese Six Companies, and others, an injunction was granted by Judge Morrow which compelled the raising of the quarantine about Chinatown. The Federal quarantine official at once communicated with the Surgeon-General of the U. S. Marine-Hospital Service, in Washington, stating that plague existed in San Francisco and that the local authorities were not dealing adequately with the situation. He received telegraphic orders to place officials on the outskirts of California to inspect outgoing trains. This measure, together with the tying of the hands of the city Board of Health of San Francisco, led to considerable excitement and confusion.

The attitude of the State Board of Health was interesting to observe: for a time many of its members were convinced of the existence of plague and favored measures of extermination. A reaction set in, the *personel* of the board became much altered through the political machine, the new president of the State Board declared against the existence of plague notwithstanding Dr. Ryfkögel's report in the affirmative.

The failure of Dr. Ryfkögel and Dr. Mouser to find plague bacilli in one of the cases was heralded as proof that plague did not exist, though the examination was made under most unfavorable conditions, and Dr. Ryfkögel himself believed the case in question to have been one of plague, and had absolutely demonstrated, beyond fair contradiction, the presence of typical plague bacilli in other cases. A young bacteriologist, Dr. Pillsbury, first decided that the cases alleged to be plague were not true instances of the disease, but on subsequent examinations became convinced that he was in error. The bacteriologist of the city Board of Health, Dr. Kellogg, isolated the bacillus of bubonic plague in case after case and made recommendations to the board in accordance with his findings. The professors of pathology and bacteriology, both in the University of California and in Cooper Medical College, were asked to attend autopsies and to witness the bacteriologic examinations. Both these gentlemen were convinced that the cases under discussion were really examples of bubonic plague and made statements to that effect.

BUSINESS MEN ACTED WITH WISDOM.

It would be unfair to the commercial interests of California, and the correspondents of The Journal lay emphasis on this, if it were not stated that the representative business men of San Francisco have in this, as such men do on most occasions, displayed rare common sense, a desire to know the truth in full and to act in the best way suited to advance the interests of the community. A group of these men asked Dr. D.W. Montgomery, a leading practitioner of San Francisco and a man in whose skill and integrity they had confidence, to investigate the situation for them and to advise them. His report stated that true bubonic plague existed and advised that means for its extermination be subscribed. The merchants raised $30,000 on the spot and placed it at the disposal of the health authorities. Later, when the disease was found not to be spreading rapidly and the public, in large part, doubted the diagnosis, a part of this money was returned to the subscribers.

The whole question now resolved itself into a bitter political fight. The Governor of the state was at war with the Mayor of San Francisco. The newspapers of San Francisco, for political reasons, hailed every opportunity for besmirching the characters and reputations of the Mayor, his associates and the scientific men who stated that plague existed. In addition some of them at least openly avowed that even if plague existed the best policy to adopt was to deny the fact. The *Sacramento Bee* from the beginning declared that the reports of the bacteriologic examinations should be trusted, and urged that honest confession with proper action would do less harm to the state than suppression of the facts. The Governor of California, it is reported, went so far as to issue a proclamation asserting that plague did not exist. But occasional cases of plague were discovered by the city health authorities, the diagnosis was confirmed by Dr. Kinyoun, and reports were published in The Journal and regularly sent to Washington where they were published by Surgeon-General Wyman in the weekly reports of the Bureau.

THE FEDERAL INVESTIGATION COMMISSION.

Early in January of this year Surgeon T. H. White, of the U. S. Marine-Hospital Service, reached the Coast and toward the end of the same month a commission appointed by the Secretary of the Treasury to work under orders from Dr. Wyman arrived in San Francisco, as noted in The Journal at that time. This Commission consisted, as our readers know, of three university professors, Dr. Simon Flexner of the University of Pennsylvania, Dr. F. G. Novy of the University of Michigan, and Dr. L. F. Barker of the University of Chicago. Their academic positions, general reputation, and special knowledge of bubonic plague acquired in China and in India by personal investigations insured a thorough, conscientious and reliable report, and one which would undoubtedly, no matter what its character, be accepted by the world at large. The problem set for the commission was to ascertain the existence or non-existence of plague in San Francisco or in other ports or places in California. News of the coming of the Commission coincided with its arrival, and the Governor of the state telegraphed to the President of the United States protesting against it and urging, if the Commission were actually to go to work, that he might appoint a state representative thereto. This telegram was answered by Secretary Gage, who assured the Governor that the Commission represented the highest authority attainable, that it was independent of the governments, both Federal and local, and that the request for the appointment of a state representative could not be granted. These telegrams, together with an urgent message from the Governor, were sent to the California legislature, then in session, and used to hasten the passage of the three health bills, one appropriating $100,000 as an emergency fund to be spent by the Governor for the suppression of plague should it arise in the state, a second making it a felony for any one to report the existence of plague in the state before it had been announced by the State Board of Health and a third making it a felony for any one to handle or experiment with germs of plague carelessly within the confines of the state. Through the help of the physicians, the Mayor and the city Board of Health, and particularly the presidents of the various commercial bodies in San Francisco, the members of the Federal Commission got immediately at work. The co-operation of the Chinese was fortunately obtained through the attorney of the Chinese Six Companies. Proclamations were issued in Chinatown ordering that all cases of illness among the Chinese, no matter what the cause, be reported to the offices of the Six Companies. One or more of the Commissioners, together with the secretary of the Chinese Six Companies, then made daily inspections of all the Chinese sick and dead. During the thirteen days when such inspections were made thirteen deaths occurred, of which six were definitely proved, pathologically and bacteriologically, to have been due to infection with the bacillus of bubonic plague. Three of the patients who died of plague were seen during life, and two of the three were definitely recognized by the inspecting Commission *intra vitam* as instances of true plague infection. One of the cases seen alive—an obscure form of the disease—was not recognized as plague even at the postmortem; it was not until after an animal had been inoculated with a portion of the spleen that the true nature of the case was determined. The six deaths occurred within eight days. The Commission telegraphed an epitome of its findings to the Bureau and subsequently forwarded its full report to Washington. Its members were ordered to communicate the results first to Governor Gage and subsequently to Mayor Phelan, and to a representative of the commercial interests of the city. To the credit of Governor Gage, be it said, he took steps immediately to co-operate on the part of the state with the Federal and city authorities in measures of suppression and extermination. His manner of procedure subsequent to the Commission's report makes it obvious that he has the good of the state at heart and that he regrets the fact that ill-chosen advisers, by their ignorance or malevolence, led him into false paths.

A delegation of prominent citizens representing the governor, the mayor and the business interests immediately proceeded to Washington and made arrangements with the officials of the U. S. Treasury Department that the city and state should take the health matters in hand vigorously and at once, the work to be done under the advice and counsel of Surgeon T. H. White, a Federal officer whose skill and executive ability have more than once successfully stood the test of the emergencies of epidemics. In order that California be not unnecessarily injured by alarmist reports of plague, the delegation urged that the report of the Federal Commissioners be temporarily withheld, and Surgeon-General Wyman appears to have consented to this for the full report has not yet been published, and even the concise statement of the results did not appear in the *Public Health Reports* until April 1—at least a month after the telegraphic report of the Commission was received in Washington.

RIGID MEASURES NOW IN FORCE.

We are informed by our correspondent that the measures for the extermination will include the institution of a plague hospital, a mortuary and a detention camp. There will be daily inspections with rigid isolation of cases and suspects, and removal of contacts to a detention camp until the incubation period is over. Not only will premises in which plague cases and deaths are encountered be thoroughly cleaned and disinfected, but a systematic inspection of Chinatown will be undertaken, street by street and house by house; rooms insufficiently lighted and ventilated will be condemned and thorough cleansing and, where necessary, disinfecting will be insisted upon. Fortunately the better class of Chinese are most sensible with regard to the affair, and will be advised by their attorney to co-operate with the health authorities, it being understood that no unnecessary measures will be resorted to and that there will be as little interference with the traditions and habits of life of the Chinese as is compatible with the thorough accomplishment of the task. The co-operation of all parties concerned is absolutely essential to the satisfactory completion of the work which has been begun, and the most hopeful feature of the situation thus far is that such co-operation has, thanks to the operations of the Federal Commission, been secured. It will be essential that all sick Chinese be most carefully scrutinized during the period of suppression, and it would seem desirable that every death among the Chinese should, in the light of the findings of the Commission, be regarded as a death from plague until absolutely proved by bacteriologic examination to have been due to some other cause. Surgeon White, in his part of the work, will be assisted by several assistant surgeons of the U. S. Marine-Hospital Service, among others by Dr. G. M. Flint of the University of Chicago, who has had personal experience with the plague both in China and in India.

PLAGUE IN SAN FRANCISCO FOR TWO OR THREE YEARS.

The fact that the members of the Federal Commission found six cases of plague in eight days, and that since they ceased work only one case has been discovered makes it extremely probable, as we have said above, that many cases of plague occur which are not recognized. The number reported for the last year is about thirty; it is safe to assume that the actual number which occurred would amount to three or four times the number discovered. Indeed, judging from the mortality tables, it seems extremely probable that though the first case was discovered in March of last year, plague has existed in San Francisco among the Chinese for at least two or three years—possibly longer.

WHY IT HAS NOT SPREAD.

How are we to explain the fact that the disease has not spread more rapidly? There has certainly been no great outbreak and the disease itself has not occurred in violent enough form to excite any great alarm in the district in which it is occurring. The explanation is not easy, but several significant facts may be mentioned. The climate is not favorable to the spread of plague; there is but little poverty in San Francisco; even among the Chinese there is an absence of the marked destitution to be met with in native cities in China; in California the Chinese are clothed, while in China and in India it is said that the people among whom the disease spreads go bare-footed and usually bare-legged, some of them wearing nothing but a breech-clout. It is possible too that owing to factors with which we are as yet unacquainted, the rats in San Francisco have not become infected; our correspondents state that there has been no evidence as yet of an epidemic among the rats in the city, and, as is well known, practically every great epidemic among human beings has been preceded by an epidemic among the rats of the place. We might think of the possibility of a low-grade of virulence among the bacilli which are at work in San Francisco, an excusable hypothesis in view of the fact that fulminating cases do not seem to have occurred and that in many of the fatal ones the illness lasted for two or three weeks. The experience is not peculiar to San Francisco, however; precisely the same kind of sneaking epidemic occurred in Calcutta for two years or more before the big outbreak and a similar history attaches to various other places.

SAFETY FOR THE FUTURE LIES IN THOROUGH ERADICATION.

And here lies the importance of the whole situation. Experience has taught us that just such sneaking epidemics as that which now exists in San Francisco can be suddenly and without special warning transformed into violent epidemics of the most fatal and extensive type. The existence of occasional cases of plague in San Francisco is therefore not so much a matter of immediate danger as it is a menace which hovers over the city, the state and the whole of the United States. The people of California and the people of the United States must not be asked to walk about daily under this sword suspended by a hair. The disease, no matter what its present nature, must be stamped out; we wish to sleep well of nights and go about our daily vocations without uneasiness.

CANDOR AND TRUTH.

A word as to truth telling in connection with this matter. The Mayor of San Francisco, the city Health Board, Dr. Kinyoun, the scientific medical men of San Francisco, certain of the newspapers outside of San Francisco and the higer class of business men in that city have not hesitated to say aloud what they believe to be true with regard to the plague situation. They are right in the view that frank confession of the exact conditions will do less harm to their city and state than will subterfuge, or misrepresentation of the facts. It is a calamity, and owing to the ignorance and panicky nature of the masses, a greater one than it ought to be, to have it announced that plague exists in a city. But Americans, above all others, should be strong enough to meet calamities bravely; if Honolulu, Glasgow, Oporto, and Cape Town have been honest and brave about such matters, ought not San Francisco to show equal candor and fortitude? Her best people are undoubtedly doing so. It is a reflection on California that the press of San Francisco has not only not stated the truth, but, ever since the managing editors of the newspapers have been familiarized officially with the contents of the report of the Federal Commissioners, they have misrepresented even editorially with regard to the situation.

SCIENTIFIC MEDICINE ELEVATED BY THE RESULT.

A most important by-product, as it were, of this plague experience in San Francisco, will be the elevation of the position of the really scientific men on the Coast. Instead of being grateful that they had in their midst men of skill and training who could diagnose accurately the conditions existing, the press and many of the public vilified these men, clamored for their removal, and did all in their power to ruin their positions and reputations. The report of the Federal Commission will tend to make Californians trust their own good men, and will lead them to hesitate in the future before taking the advice of the inexperienced, the charlatan, a corrupted press or the professional politician.

EFFECT ON OTHER CITIES.

The limitation of plague almost entirely to the Chinese population of San Francisco—there were only three plague deaths among the whites of the city during the past year—brings up the question as to the existence of the disease in Portland and other places where large numbers of Chinese live. This matter is of the highest importance in view of the fact that little is known or cared about the diseases which prevail among the Chinese in American cities. The inspections by health authorities are perfunctory and, as a rule, utterly inadequate. Death certificates are often signed simply on external inspection of the corpse, any satisfactory clinical history being available only in the rarest of instances. If recent experiences afford us any guide at all, they indicate that we may no longer refuse to be our brother's keeper; however distasteful an acknowledgement of the relation may be to some of us, it is one which for our own protection we must consent to. We understand that the Surgeon-General of the U. S. Marine-Hospital Service has already taken steps to inquire into this matter.

We have dealt somewhat fully with this subject of plague in San Francisco, for it seems to us one of unusual importance not only to the medical men but to the public generally in America. We believe too that a plain statement of the truth may do much to dispel the alarm that vague suspicions excite. We feel sure that the conditions in California at present are not such as to interfere in the slightest way with travel or commercial life in that state. There is no reason, so experts tell us, why tourists should not visit San Francisco and even San Francisco's Chinatown, just as freely as ever. The trade of the city and state should not be materially damaged by the present conditions. No disturbing quarantine measures are necessary and none will be inaugurated. That the disease may, however, be soon stamped out there, every one will hope; that the work be undertaken promptly, thoroughly, energetically and without dilly-dallying, no matter what the cost, the inhabitants of California and the whole people of the United States must insist.

Fiction and Drug Habits.—The *British Medical Journal* of March 23 takes from the *Academy* the following story, which points its own moral: Professor Wyllie, of Edinburgh, in a recent lecture, related the following case. He was called one day to see a young man. As he was entering the house the patient's sister exclaimed, "Oh, it's all that horrid book!" Inquiry elicited the fact that the patient's favorite reading was "Sherlock Holmes." The young man was in a very low state, and his telltale arm was dotted with hypodermic punctures. His admiration for the most popular of paper detectives had betrayed him into the cocain habit. How many people have been brought under the baleful spell of opium by reading De Quincey's famous book? Théophile Gautier's "Paradis Artificiels" has also much to answer for.

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THE OPERATIVE TREATMENT OF TYPHOID PERFORATION.

It is a well-recognized fact that there is often a marked want of agreement between the symptoms of a case of typhoid fever and the intensity and extent of the intestinal lesions. The latter, as has now been abundantly shown, may even be entirely wanting. It is, therefore, impossible to predicate in the individual case the occurrence of or the escape from perforation of the bowel and consecutive peritonitis. The latter event, it is believed further, may occur even without the intervention of actual perforation. In some instances perforation has been due to gangrene resulting from vascular occlusion and in others exceptionally also to rupture of other viscera than the intestines, as, for instance, the spleen, the mesenteric glands, the gall-bladder and to abscess of the liver.

Perforative peritonitis is one of the most common fatal complications of typhoid fever. Occasionally it occurs as the first pronounced manifestation in a latent case; or it may develop suddenly in an apparently mild case. Nevertheless, it is usually the accompaniment of cases grave from the outset. The perforation generally is single, although it may be multiple, and, in correspondence with the preferable seat of the typhoid ulceration, it is most commonly situated in the lower portion of the ileum. It is of great importance—particularly from the diagnostic standpoint—to realize that the vermiform appendix may also be the seat of typhoid perforation.

Perforation of the bowel in the course of typhoid fever is most likely to occur during the stage of sloughing of the intestinal lesions, therefore toward the end of the second or the beginning of the third week of the disease. It may, however, occur at a much later period. The ultimate or exciting cause may be distention of the bowel, constipation, excessive peristalsis, vomiting, straining at stool, or other undue muscular exertion.

The frequency with which intestinal perforation occurs in the course of typhoid fever is variable, an average of from 1.5 to 3 per cent. of all cases or from 9 to 12 per cent. of all deaths representing a fair estimate. The distinctive symptoms are sudden abdominal pain with retching and vomiting, and intestinal paresis. The features soon become drawn, the nose sharp, the extremities livid and cold, and the body covered by cold sweat. The pulse becomes frequent, irregular and small, while the temperature may be but little affected. Death is pretty sure to follow unless relief is afforded by prompt surgical intervention, although it can not be denied that in rare instances adhesive inflammation may prevent extension of the inflammatory process and thus avert a fatal issue. Keen[1] has emphasized the importance of prompt operation in cases of typhoid perforation, expressing the belief that such a course in every case—except the moribund—would result in the saving of at least one-third of the cases and possibly more. He prefers[2] as the time for operation not that of immediate primary shock, but rather within the second twelve hours.

In an important communication presented at a recent meeting of the Philadelphia County Medical Society, Dr. Wm. Osler[3] reports 3 cases of perforation in the course of typhoid fever in which operation was performed, with recovery in 1, while in 1 of the fatal cases death resulted rather from the intensity of the primary disease than from the effects of the perforation, and in the other the patient died in the course of the operation. He adds, further, that of 11 cases of typhoid perforation operated on for him while at the Johns Hopkins Hospital recovery occurred in 5, while, of 5 other cases operated on, recovery ensued in 1. Dr. Osler, in his paper, dwells especially, however, on the necessity for careful and constant observation in order to secure an early diagnosis, at times under most difficult conditions. To this end he has drawn up a schedule of specific instructions to be followed in all cases of typhoid fever in which perforation is suspected and in which special attention is directed to complaint on the part of the patient of abdominal pain, to hiccough, to vomiting, to special acceleration of pulse or respiration, to sweating or signs of collapse. With regard to the pain there should be noted the mode of onset and the situation. The state of the abdomen should be examined with regard to form, respiratory movement, the results of palpation, percussion, and auscultation, and the rectum and the character of the stools. Also the general condition of the patient should be noted, the facies, the pulse, the temperature, the respiration, the presence of sweating, vomiting and hiccough. Finally, the blood-count may yield important information, the leukopenia of an uncomplicated attack of typhoid fever being replaced in the presence of perforation and peritonitis by leukocytosis.

BOVINE AND HUMAN TUBERCULOSIS.

The greater virulence of bovine over human tuberculous infection is well known, but fears are sometimes expressed that the latter may be an exciting cause of the disease in the lower animals, and thus give rise to especially dangerous conditions for the human subject. This vicious circle has been repeatedly reported as occurring, though in many of the cases at least no very thorough investigation has been made, the conclusions being purely *post hoc* in their character. It would be presumptuous to say that this infection from man may not occur as stated, but the danger may not be as great as is feared. This would certainly appear to be the case if we are to accept as correct the findings of the pathologist and bacteriologist of the Arkansas Agricultural Experiment Station, Dr. Dinwiddie, as given by him in the December Bulletin (No. 63) of that institution. He sought to elucidate the following points: 1, the degree of insusceptibility and the possibility of inducing a progressive or permanent infection in cattle by the bacilli of human pulmonary phthisis; 2, the nature of the excess of virulence of the bacilli of bovine tuberculosis over that of human origin, whether selective or general, directed toward cattle only or toward other species of domestic animals as well.

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[1] Surgical Complications and Sequels of Typhoid Fever: W. B. Saunders, 1898, p. 319.

[2] Loc. cit., p. 225.

Two series of experiments were carried on under similar conditions, consisting in inoculations with cultures obtained from human sputa and from bovine tuberculous lesions respectively. Eight or more animals of each species tested—cattle, sheep and pigs—were inoculated, and this performed with large doses into the most vulnerable regions, viz., the peritoneal cavity and lungs. Cattle inoculated with cultures from human sputa proved very resistant and in no case was there what appeared a progressive or even permanent infection. Only in pigs was it possible to obtain a genuine tuberculosis, in most cases chronic, leading to emaciation; in others generalized, though not necessarily fatal. Sheep were rather more susceptible than cattle, as shown by the more permanent tuberculin reaction and the larger local lesions, but suffered no general impairment of health. With bovine cultures all three species proved highly susceptible; a generalized rapid tuberculosis was the rule. In cats, two of which were tested, the effects were comparatively slight. Dr. Dinwiddie remarks that the susceptibility to inoculation tuberculosis in domestic animals does not correspond to the incidence of the naturally acquired disease, and he thinks other factors of contagion are in a large measure answerable for the great prevalence of tubercular disease among cattle. He is inclined to attribute the greatest importance to the influence of stabling and vitiated air. The animals tested were subjected to the ordinary conditions of cattle in the country. They had access to overhead shelter and were well fed. Massive inoculations of recently-isolated cultures were made into the lungs as well as the peritoneal cavities of calves of different ages, and the animals kept under observation for long periods and subjected to repeated tuberculin tests before their final dissection. These results and conclusions correspond with the experience of the Adirondack Sanitarium, where the cattle were found absolutely free from tubercular taint, notwithstanding the greater chances of contagion from human sources. It is quite possible that occasionally conditions of susceptibility or, as Dinwiddie says, of exceptional virulence of human sputa, may exist that would make it possible for cattle to become tuberculous by contact with tuberculous human beings. But these experiments of Dinwiddie do not indicate any excessive danger of this kind. It is well that they are placed on record and they are a valuable contribution to the sum of knowledge on the subject.

There are a large number of exaggerated statements going about, many of these from medical sources, that may seem to some justifiable in view of the real peril that exists and the need of popular education in regard to it. Their publication, however, is not scientific, and it is just as well to have our attention occasionally called to facts that seem to indicate that some of the expressed views may not be as scientifically accurate as the impression created by their utterance would imply. Tuberculosis is enough of a peril; its real dangers, when stated, are formidable enough; there may, therefore, be some little consolation in occasionally recognizing facts which indicate that in some ways and in some cases the danger of infection may be less serious than some commonly-uttered statements would lead us to suppose.

THE AMERICAN ASSOCIATION OF PATHOLOGISTS AND BACTERIOLOGISTS.

The first annual meeting of this Association took place in Boston, April 5 and 6. According to the program 31 papers and demonstrations were presented, practically all embodying the results of original work in pathology and bacteriology. The requirements for admission include evidence of the accomplishment of creditable research in pathology or bacteriology, and the purpose of the Association is the "advancement of knowledge of disease." There are now in this country three or four associations of national scope with more or less similar aims, namely, the Section of Bacteriology and Chemistry of the American Public Health Association, the Society of American Bacteriologists which meets in conjunction with the American Naturalists, the Section on Pathology and Bacteriology of the American Medical Association, and this new Association. There is, therefore, certainly no lack of organizations for the promotion of pathology and bacteriology. Indeed there seems to be a superabundance. Two of these bodies are, however, sections of larger associations, and the Society of American Bacteriologists is exclusively bacteriological, so that the field might be considered open for the new organization, of pathologists and bacteriologists, the members of which probably felt the need of an independent organization.

The formation of organizations of this kind and scope points to healthy activity in the more purely scientific fields of medical study and investigation. But it is hoped that the differentiation and specialization made evident by this banding together of scientific workers may not be carried so far as to eliminate men of this stamp from participation in the societies and associations patronized by the practitioners of medicine who are particularly benefited by direct contact with teachers and investigators in pathology and bacteriology. And the scientific worker can not afford to isolate himself from association with practitioners who carry into clinical work the results of the laboratory. Healthy, general development of medicine rests upon thorough and sympathetic co-operation of these two groups of men, an important common meeting-place of which should and must be our local, state and national general societies. In a country of such extent as ours it is probably well that there are several associations of the kind here discussed, meeting at various places and at different times of the year. This tends to keep the interests alive in the various sections of the country, and brings it within the easy reach of all to frequently co-operate actively in the important work of medical societies. The American Medical Association, the representative one of all medical associations in the United States, ought to receive the hearty co-operation of all engaged in medical work, be it scientific or practical; for only then can the Association best represent the interests of the American medical profession. The Section on Pathology and Bacteriology, recently organized as one of the scientific branches of the Association, ought to receive the support of the best workers in these departments. These Section meetings will be attended by general practitioners who are interested in all that pertains to the highest development of scientific medicine, and to assist these is worthy of the best efforts of those who are working in the special branches.

POST-GRADUATE STUDY.

As ordinarily used post-graduate study means a course of study by means of which the practitioner may catch up, as it were, with the advances medical practice and knowledge have made since he graduated or since the last opportunity presented itself for polishing off the rust and tarnish supposed to form in the brain of the busy practitioner, especially in the country. The number of flourishing post-graduate schools in the large cities of the country indicates that there is a real demand for opportunities of this kind. By taking short practical courses in such institutions, the practitioner from the small towns and the rural districts not only places himself in touch with recent advances, but he gets a much needed and on that account enjoyable rest and diversion. He returns to his post of duty not only with a new medical polish, but the whole man has been revivified in a certain measure. All need seasons of rest and recreation, and the man from the country is inclined to seek the city for that purpose, while the city physician more often is inclined to go to the country. This is as it should be. Certainly the interesting and forceful personalities of leading teachers, the medical societies, the libraries, the hospitals, and the clinics of large medical centers must be attractive to the practitioner whose work tends to keep him more or less isolated with but few opportunities for the inspiration and stimulus that come from personal contact with other workers in the same field. And it can not be denied that the present state of medical education, with its numerous, utterly inadequately equipped, medical schools renders post-graduate study necessary in order that one may learn what he ought to have learned as a medical student. Viewed in this light the post-graduate schools constitute a poor comment upon our system of medical education. Post-graduate study of this sort ought to be rendered unnecessary by rapidly raising the general standard of undergraduate work.

There is, however, another kind of post-graduate study to which Sir Michael Foster has recently called attention.[1] This is the study which fits one for the task "of inquiring after new truths, of grappling not with the known, but with the unknown." It is the duty of every teacher to teach the beginner what is known, to carry on researches of his own, to train those who are no longer beginners in the way of inquiring after new truths, says Foster. This is the highest kind of post-graduate study. We have too few post-graduate students of this kind. The majority of our large hospitals are not yet organized in such a way as to render this kind of study practicable and inviting. They are not furnishing opportunities for training men for research. Undoubtedly the sick are healed and the beginners trained to some extent, but the hospitals are not to any great degree put to that higher scientific use that Foster has in mind.

"FOOLS MAKE A MOCK OF SIN."

That a disreputable resort should find the name Paresis Hall an attraction, assuming that the designation was adopted because of the supposed connection of the disease with the orgies there conducted, seems at first sight a little odd. Nevertheless, such appears to have been the idea in the name of a noted New York dive that has just closed its doors under the stress of police surveillance and regulation. It is not, however, so difficult to appreciate how a little spice of bravado such as this mav have suited a certain class of dissolute patrons. Paresis, so far as its causes are known or suspected, is only a remote danger, and the name has just enough of oddity in it to draw. Other specific names a little more familiar would perhaps have the opposite effect. The comment of a religious journal on the case—that "fools make a mock of sin"—applies to physical as well as to moral transgressors, and this is a case in point.

HINDOO ZOOPHILY AND SNAKE-BITES.

According to the government statistics no less than 24,621 persons died as the result of snake-bites in India in the last year covered by the reports. To balance this 94,548 snakes were killed by human agency. This is a remarkable showing and can hardly be explained except by the heathen Hindoo's reverence for animal life even in its most objectionable forms. A snake is one of the easiest of all animals to kill, a venomous one no more difficult than any other. In this country hundreds of thousands are annually slain at the least estimate and no bounty given, and poisonous varieties are practically exterminated in most thickly settled districts. With all allowance for special difficulties that may exist, the less than one hundred thousand snakes killed in India is a most extraordinary fact. India is the paradise of vegetarians and antivivisectionists, but it is a paradise with altogether too much of the presence of the serpent.

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[1] The Nineteenth Century and After, 1901, 57-63.

REPORTED CASE OF PLAGUE IN ANN ARBOR, MICH.

An authoritative statement is printed in our news columns in regard to the reported case of bubonic plague in Ann Arbor. This seems to be especially noteworthy as a case of laboratory infection and as the only one thus far occurring in the inland region of our country—that is, assuming it to be a genuine case of plague. Its early recognition and the prompt action in treatment and disinfection should reassure any who have felt any apprehensiveness in regard to the spread of the disease; the experience that has been gained since the Vienna incident shows that the excessive fear of the extension of the disorder is unfounded. The present case, however, indicates the risks that may occur in laboratory work and the precautions that ought to be taken to avoid any possible contagion. While the actual method of the infection is not known, it may easily have occurred from some almost imperceptible and unconscious oversight, perhaps due to a very little lack of full realization of the risks incurred in the daily handling of the cultures. Thus far, however, the proof that this is a case of plague is not positive.

THE ST. PAUL MEETING AND YELLOWSTONE PARK.

The Chairman of the Committee of Arrangements notifies us that arrangements have been completed for an excursion of the members of the American Medical Association to Yellowstone Park. The Committee has finally succeeded in pursuading the officials to open up the park a week earlier than usual in order to accommodate the Association. A special train will be run from St. Paul to the Yellowstone Park and the railroad officials have promised to do everything in their power to make it satisfactory to all concerned. The rates will be very low, but how low can not at this time be definitely stated. Those who attended the meeting in 1882 will remember with much pleasure a similar excursion that was run at that time, and these will not need to be informed that the one now proposed will be full of enjoyment. Further announcements will be made later. The Yellowstone National Park contains more natural wonders than are to be found anywhere else in the world, and this will be a rare opportunity for our Eastern friends to see what this portion of our Great West possesses.

INTERPRETATION OF WISCONSIN'S LAW.

A Wisconsin judge has, if the press reports are correct, rendered a decision that affects the state medical practice act much in the same way as did that of the Texas judge who made any diploma without discrimination a qualification in that state. If his words are correctly reported—and the text is given in quotation marks—the only questions are, has the candidate a diploma from an incorporated medical college and was it properly obtained? An incorporated medical college now needs a judicial definition, but we fear the technical turn of the judicial mind would probably see in the seal and signature of the secretary of state all that is required. The Armstrong manufactories were all duly incorporated according to law; a desk and a little ink, parchment and ribbon will meet the other requisites. These being supplied, it matters not whether any other qualifications exist; the holder of the sheepskin, in the alleged words of the judge, "is entitled to practice under the law of the state although he may be a rogue." "We have got to take the law as it stands." We are sorry for Wisconsin if this is to be its law, but hope some higher court will see another possible interpretation of the statutes.

SMALLPOX AND VACCINATION IN PORTO RICO.

Letters of inquiry addressed to the Secretary of the Superior Board of Health of Porto Rico, concerning the prevalence of smallpox among the people of the island, have elicited a reply which shows in the most decided way the benefit conferred on the population by the general vaccination instituted and carried out under military auspices in 1899 by the health board, Major J. Van R. Hoff, surgeon, U. S. Army, president. This vaccination was begun in January and ended in June. Since then, until recently, no case of smallpox was reported to the Board. During December, 1900, the occurrence of 2 cases at Mayaguez, and 1 at Sabana Grande was noted. In January, 1901, 12 cases were reported from Ponce, which has continued to be the principal focus of the infection, 67 having been reported in February and 72 in March up to the 26th. The total number of cases in Ponce during this outbreak has been 151. The total number reported from all other places in which smallpox has prevailed is 288, and of this number only one case proved fatal. This alone shows to what extent the susceptibility of the natives to the influence of smallpox has been modified by the general vaccination. In fact the death-rate is so exceedingly low as to suggest a doubt as to the identity of the disease; but in the first place chicken-pox is seldom officially reported as smallpox, and in the second place Dr. W. Fawcett Smith, the present secretary of the Superior Board of Health, certifies to the nature of the cases and remarks that it was interesting to notice the regularity with which the severity of the eruption corresponded with the greater or less perfection of the scars of the previous vaccination.

THE ROLE OF ALCOHOL IN THE CAUSATION OF INSANITY.

That alcohol is not without utility will not be denied by any unprejudiced mind, but that it is likewise a powerful influence for evil can not be disclaimed even by those who advocate most earnestly its legitimate and intelligent employment. Apart from the effects of acute intoxication the deleterious influence of long-continued indulgence in alcohol is witnessed in chronic visceral changes principally of a degenerative character. In speaking of the increase in the number of cases admitted during the year 1900, to the Royal Edinburgh Asylum, the physician-superintendent, Dr. Clouston, in his annual report was unable to avoid the conclusion that this was due to a large extent to the excessive use of alcoholic stimulants during times of prosperity, attended with brisk trade and high wages. The number of alcoholic insane admitted to the Asylum has increased from an average of 15.5 per cent. in the period between 1874 and 1888 to 21.5 per cent. in the period between 1889 and 1898, and to 22.5 in 1899. Of 472 new cases received during the year 1900, drink was assigned as either the sole or contributory cause in 115, or about one-quarter of all. In the men alone 81, or about one-half, were alcoholic patients. Besides, for every man in whom excessive drinking causes absolute insanity there are 20 in whom it injures the brain, blunts the moral sense and lessens the capacity for work in varying degree. Dr. Clouston makes an earnest plea for legislative or state means for the diminution of alcoholism. He rightly contends that it is an irrational application of the doctrine of liberty to grant to every man the inalienable right to render himself a burden to others and a source of degradation and danger to the community.

"CHRISTIAN SCIENCE" AND LEGAL CONSENTING CAPACITY.

A Detroit newspaper, *To-Day*, recently published, with some comment, an account of a death from influenza under "Christian Scientist" treatment. This called out an indignant protest from a friend who claimed that, as all had been done that the patient and his family desired, it was, as the widow is quoted as expressing it, "nobody's business." The man had a right to die under "Christian Science" if he wished to, and any comments on it were impertinent in this correspondent's opinion. He admits apparently that there is such a thing as "grippe," for he says "Christian Science" has had to "wrestle" with it. The editor, in reply, congratulates the sectaries on the progress this indicates in their recognition of the existence of such a disease, and says if they will cease advertising their alleged successes, he will keep silence on what he considers their failures. It may perhaps be conceded by some, as it is by him, that if a person of full age and legal consenting capacity chooses to follow "Christian Science," even to death, he has a right to do so, but this involves a possible medicolegal question. Has this faith in the non-existence of disease with its consequences as deduced by its believers such a recognized legal standing as to authorize this kind of passive suicide? If so, we should stand quietly by and see a severed artery bleed a man to death while a "Christian Scientist" applied the present or absent treatment of his sect, provided the sufferer demanded it. This is only an extreme logical application of the idea and is well within the bounds of "Christian Science" claims. On the whole, it seems more than doubtful whether fanatical or fatalistic beliefs can legally justify sins of omission involving human life. Of course, if they are held by a large number of more or less influential individuals, including even judges, it may be difficult to punish or prevent them, but that does not affect the principle.

THE PROPAGATION OF YELLOW FEVER.

In the *Philadelphia Medical Journal* of April 6, Dr. H. R. Carter, of the U. S. Marine-Hospital Service, reviews, with apparent effort at fairness, the objections to the mosquito theory of the propagation of yellow fever. He takes up seriatim what he considers the admitted facts as to the method of infection, noticing at most length those that seem most difficult to reconcile with the Finlay theory. The strongest point he offers against it seems to be the apparent retention of infection in an environment without a chance at reinfection; for example, he cites cases of vessels leaving infected ports and developing yellow fever after lapses of time that preclude the belief in the survival of infected mosquitoes. It is true that their eggs laid above water are capable of germination for long periods, but he thinks that, even were the eggs themselves infected from their parents, it is improbable they could find the proper conditions for their development after such a lapse of time. His recognition of only three possible explanations—1, the prolonged life of the germ-bearing insect beyond the present known limits; 2, the occurrence of unrecognized cases; 3, the survival of infection in their eggs—seems somewhat insufficient. Assuming a parallelism between malarial and yellow fever infection, it is not at all beyond the bounds of belief that there may be a like variability in the duration of the periods of incubation. In fact this is noticed by Finlay in his article in this issue of The Journal, as an analogy with the malarial infection. The mosquito theory of malaria is practically accepted, and there are many facts of delayed appearance of the disease quite as striking as those occurring in yellow fever. These latter, therefore, do not seem to be as important as evidence against the mosquito infection theory as he seems to think, certainly not if we are to utilize the most obvious analogies. Aside from the omission of this possible view of the case, Dr. Carter's summary of the objections seems very fairly stated. Reed and Carroll's experiments have placed the Finlay theory of the propagation of yellow fever in the position of the most probable working hypothesis in our present knowledge of the disease. It is certainly the most hopeful one as regards our future control of it, and it is to be sincerely hoped that it may be fully confirmed by further bacteriological and clinical studies.

SAN FRANCISCO'S PLAGUE.

We present on another page a comprehensive and authoritative résumé of the bubonic plague conditions that have prevailed in San Francisco, our conclusions having been drawn only after a careful review of the various phases of the question, these latter having been presented in detail through The Journal, from time to time, from data furnished us by efficient correspondents on the ground. This "Special Article" summarizes the conditions to date, and merits the careful reading of every medical practitioner.

Medical N[illegible]

CALIFORNIA.

Dr. Helen O. Anderson, Los Angeles, is at the head of a movement to establish a hospital for children in that city.

The Oakland College of Medicine and Surgery, incorporated in October last, will be ready to accommodate 500 students in its new building which will be ready for the fall term.

The California Eye and Ear Hospital, San Francisco, established four years ago, has outgrown its present quarters and will erect a new $20,000 building. Dr. Tenison Deane is president, and Dr. Redmond W. Payne, secretary.

A serious epidemic of pneumonia recently occurred in Bakersfield, Cal., with more than 200 cases and 80 deaths. There was a suspicion among a few that plague rather than pneumonia should have been the diagnosis, but investigation shows no foundation for such suspicion.

Recording of Certificate Not Essential.—Superior Judge Kerrigan has reversed the decision of the lower court and holds that the defendant, in the case of J. S. Reid vs. A. J. Raisch, must pay the amount sued for with interest from 1897. In the part of the state law which provides for the issuance of a certificate by the State Board, the certificate is declared to be conclusive evidence of the right of the person to whom it is issued to practice in any part of the state. This right is not lost by failure to record the certificate. The provision for having it recorded is in a section of the law apart from the other provision. There is a general provision making a violation of any part of the law a misdemeanor, and Dr. Hopkins might have been prosecuted for not having his certificate recorded, but his right to recover for services would remain good.

DELAWARE.

Dr. Florence Watson has been elected assistant superintendent to succeeed Dr. John H. Hammond, resigned, at the State Hospital for the Insane, at Farnhurst.

Smallpox in the State.—Sixteen cases of smallpox have been reported at Concord, 3 at Seaford, 2 at Bethel, 1 near Bridgeville, and 1 near Portsville. On April 4 the State Board of Health of Maryland notified the State Board of Health of Delaware that unless pest-houses were built in Sussex County to care for the cases of smallpox and persons in quarantine persons from this county would not be allowed to cross over into the adjoining counties of Maryland.

GEORGIA.

A health officer was provided for by an ordinance passed by the Atlanta City Council, April 1, despite opposition from the Board of Health.

The University of Georgia Medical Department. Augusta, held its annual commencement exercises April 1, and graduated a class of thirty. Dr. James B. Morgan delivered the doctorate address.

The Atlanta College of Physicians and Surgeons held its third annual commencement, April 2. Hon. Dupont Guerry, Macon, delivered the address of the evening and diplomas were given to a class of 67.

The Atlanta City Council has voted to refuse to allow Dr. Charles F. Benson $195, and Dr. Thomas D. Longino $190. for services rendered as members of the Board of Health in connection with smallpox cases.

An electrotherapist of Atlanta, who declined to comply with the law specifying that before practicing medicine in the state an examination must be passed, and who was on trial for practicing medicine without a license, has been acquitted.

ILLINOIS.

Dr. A. David Steele, Chester, has been reappointed physician of Randolph County.

Dr. Henry P. Beirne, Quincy, has been elected alderman of the third ward in that city.

Dr. Samuel E. Munson has been appointed physician and pathologist to the Springfield Hospital.

An ambulance has been presented to the Ryburn Memorial Hospital, Ottawa, by Messrs. James and J. D. Oliver, South Bend, Ind.

Chicago.

The College of Medicine and Surgery has increased its capital stock from $10,000 to $50,000.

Dr. Hezadiah Todd Crabtree has gone to San Francisco to become house physician of the Children's Hospital.

Dr. Ellon S. Smith, Southwick, Mo., who had never been vaccinated, was taken to the Isolation Hospital, April 5, suffering from smallpox.

Dr. Mary H. Thompson's memory is to be perpetuated by a marble bust to be made by Daniel Chester French, the sculptor, and to be placed in the Art Institute.

Mortality of Chicago.—For the week ended April 6, the mortality was at the rate of 13.37 per 1000 per annum, which compares favorably with that of the corresponding week of last year, which was 17.56. Of the 451 deaths, 70 were from pneumonia, 55 from consumption, and 35 from violence. While there were 22 more deaths reported to the health department last week than the week previous, the total number was 121 fewer than for the first week in April, 1900. The record of exceptionally low mortality has now continued unbroken for eleven weeks, during which period there have been 933 fewer deaths than during the corresponding period last year. Only the mortality from such chronic maladies as nephritis, and diseases of the nervous system shows any material increase; while, on the other hand, deaths among the aged, those over 60 years, are but about one-half the number recorded a year ago—77 against 140. Similarly as to infant and child mortality, the total deaths among those under 5 years of age were 117 last week, 127 the week previous and 134 last year. Public health conditions, as indicated by the mortality figures, were never more satisfactory than at present.

INDIANA.

A quarantine has been established at Freelandville, Knox County, by Dr. Lyman M. Beckes, Vincennes County health officer, on account of smallpox.

Dr. George F. Edenharter, superintendent of the Central Hospital for the Insane, Indianapolis, has been re-elected for a third term of four years, by the trustees of the institution.

Smallpox in March.—The State Board of Health reports, for March, 472 cases of smallpox with 3 deaths. It is estimated that 200 of the cases were in Switzerland County; 100 in Lawrence County and 75 in Ohio County.

Osteopaths are asking for license to practice in the state. At the meeting of the Board of Medical Registration and Examination, April 3, at Indianapolis, 25 applications to practice under the new law were received. This law provides that graduates of regularly established osteopathic colleges are entitled to practice their profession, providing they administer no medicine.

IOWA.

Iowa University College of Medicine, Iowa City, held its thirty-first annual commencement on April 4. Hon. A. B. Cummins, Des Moines, delivered the annual address, and a class of thirty-six received diplomas.

Measures against smallpox at Waterloo have been taken by the State Board of Health, which issued an order on April 3 closing schools, the opera house, forbidding the holding of public meetings and requiring general vaccination.

KANSAS.

Stormont Hospital, Topeka, is being rebuilt.

The Smallpox Situation.—Dr. W. B. Swan, secretary of the State Board of Health, reports a decrease of smallpox in the southern part of the state, but in the northern part it is increasing. During March there were 1336 cases, with a mortality of eight. Smallpox has broken out at the Topeka Insane Asylum, and a number of the attendants have resigned. An isolation hospital has been established on the grounds and at present there are three cases. Smallpox is still prevalent in Topeka. Eight new cases were reported April 6. The disease has been prevalent all the winter in Pleasant Valley township, Saline County. There have been about 40 mild cases with no deaths.

KENTUCKY.

Dr. Hugh Edward Prather, as the result of competitive examination, has been appointed interne at the Louisville City Hospital.

Commencement exercises of the Medical Department of the University of Louisville were held March 28, and a class of thirty-five graduated. On the previous day twenty-eight were graduated from the Louisville Medical College.

Quarantine against Tennessee has been proclaimed by the State Board of Health, with a view to stamping out the smallpox which now exists in the border counties and which, it is claimed, is directly attributable to the unrestrained ingress of negroes from Tennessee.

Dr. Reynolds to Resign.—As a result of serious difficulties in the faculty of the Hospital College of Medicine, Louisville, Dr. Dudley S. Reynolds, professor of diseases of the eye, ear, nose and throat and of medical jurisprudence, will in all probability shortly retire from the faculty. Professor Reynolds is chairman of the judicial council of the Association of American Medical Colleges, and his term as a member of the council expires at the next meeting.

MICHIGAN.

A summer course at the University of Michigan medical department is now under discussion by the faculty.

Mercy Hospital, better known as Emergency Hospital, Iron Mountain, has been closed by order of the bishop of the diocese.

Health in Michigan.—The report of the secretary of the State Board of Health, based on the sickness statistics, shows that in March, 1901, compared with the average in the ten years preceding, scarlet fever, typhoid fever and smallpox were more than usually prevalent; and consumption, intermittent fever, remittent fever, measles, whooping-cough, cerebrospinal meningitis and diphtheria less than usually prevalent.

Dangerous Laws.—The secretary of the State Board of Health, Dr. Henry B. Baker, has petitioned the legislature against the passage of two bills introduced, and recommended by the committee on public health. The first of these proposes to place the entire responsibility for the proper preparation for transportation of "every dead body," including those infected with dangerous diseases, in the hands of the registrars of deaths, who are usually the clerks of cities, villages and townships, and who, as a class, can not be supposed to know one disease from another, nor how to disinfect any dead body. He says that if this bill becomes a law, the interests of no locality can be guarded against this mode of introduction of disease, by any official, not even by a registrar of the locality directly interested; but every locality is then to be at the mercy of any non-professional registrar "at the point of shipment" in any other part of the state, and wholly irresponsible in the locality most interested. The present law places the responsibility for the introduction of corpses infected with dangerous diseases with the health officials of the locality endangered thereby, which is certainly the correct principle. The second bill proposes to amend the law so that corpses infected with dangerous diseases may be sent into any township, city or village in Michigan without the permit of any officer of that township, city or village, and without the permit of any health officer of that place, provided only that "said corpse is accompanied by a removal permit duly issued by the register of deaths at the point of shipment." Dr. Baker understands that this bill is instigated by an undertaker who wants to take or send corpses infected with dangerous diseases into localities without taking the trouble to obtain permission of the health officers of the places to which the infected bodies are sent.

LOUISIANA.

The State Board of Health has appointed Drs. H. L. Ballome, D. C. Anderson and T. B. L. Layton marine inspectors.

Charity Hospital Visiting Staff.—At the monthly meeting of the board of administrators, Charity Hospital, April 1, the following visiting staff was appointed to serve during the ensuing six months: Visiting physicians—Drs. W. W. Butterworth, L. G. LeBeuf, A. Nelken, A. Weber, J. M. Soniat, N. Thiberge, J. Laurans, W. H. Seeman, J. A. Storck, P. E. Archinard, E. M. Dupaquier, I. I. Lemann, O. Lerch, G. K. Logan, J. Barnett, J. M. Elliot, C. H. Tebault, Jr., G. S. Bel, G. F. Patton, C. N. Chavigny, L. L. Cazenavette, T. S. Kennedy, E. W. Huhner, and F. Loeber, Jr. Visiting surgeons—Drs. P. Michinard, J. Lazard, J. L. Burthe, J. F. Oechsner, J. B. Guthrie, H. S. Cochram, H. P. Jones, A. S. Yenni, E. H. Walet, C. L. Horton, E. D. Martin, W. M. Perkins, L. Thibaut, S. P. Delaup, J. B. Elliott, Jr., M. H. McGuire, C. J. Miller, S. M. D. Clark, W. E. Parker, E. L. McGehee, H. B. Gessner, M. Souchon, L. Perilliatt, F. W. Parham, F. A. Larue, E. Moss, C. Chasaignac, P. Gelpi and C. A. Borey. Visiting aurists, rhinologists and laryngologists—Drs. E. W. Jones, O. Joachim and J. P. O'Kelley. Visiting oculists—Drs. P. Reiss, E. W. Jones and E. Jowers. Visiting dermatologists—Drs. I. Dyer, R. Hopkins. At the same meeting a bid of $41,864 for the erection of the Nurses' Home was accepted. This does not include the putting in of washstands, for which a special contract will be made.

MARYLAND.

Baltimore.

Dr. Louis McLane Tiffany is convalescing from an attack of appendicitis.

The building fund of the Maryland University Hospital has been increased nearly $1000, by the concert given March 23.

Maryland Medical College has bought, for $14,000, two buildings which it proposes to convert into a hospital as the present one is inadequate to the needs of the institution. The remodeling of the buildings will involve an expense of about $5000.

Tuberculosis Map.—Assistant Health Commissioner C. Hampson Jones has completed the first tabulated tuberculosis map ever compiled here. It will be distributed among physicians. It shows that there were 1151 deaths last year from tuberculosis of the lungs and larynx; 781 were white, 370 colored, and 1 a Chinaman. The deaths between 20 and 40 years of age were more than half of the total. The death of 142 between 5 and 20—the school age—suggests a far greater number of school children infected. The leading occupations were: housewives, 192; laborers, 114; servants, 63; clerks, 63; merchants, 23; saloonkeepers, 17; drivers, 16; waiters, 16; school children, 16; tailors, 15; sailors, 14; painters, 13; laundresses, 12; carpenters, 10; seamstresses and school teachers, each 9. Typhoid and diphtheria maps are also being prepared. In addition to giving the number of deaths, the age and occupation, they will show the exact location in the city where each death occurred and where the diseases are most prevalent.

MISSOURI.

Barton County has 118 cases of smallpox, 67 of which are at Vernon.

Columbia Medical College, Kansas City, elected the following officers, April 1: Dr. Winn F. Morrow, president; Dr. Philip C. Palmer, vice-president; Dr. A. F. Jones, secretary; *Dr. James E. Moses, treasurer, and Dr. John L. Robinson,* dean.

University Medical College, Kansas City, elected the following officers, at the annual meeting of the trustees, April 3: Dr. James E. Logan, president; Dr. Samuel C. James, dean; Dr. Jabez N. Jackson, secretary; Dr. Albert H. Cordier, treasurer, and Dr. John Punton, curator.

The annual banquet and conferring of degrees, the last event in the history of Beaumont Hospital Medical College, St. Louis, before its consolidation with the Marion-Sims Medical College, was held March 27. Dr. M. Goldstein delivered the annual address and Dr. Frank J. Lutz, dean of the college, presented diplomas to a graduating class o f48.

NEW JERSEY.

Dr. George B. Philhower has been re-elected president of the Franklin Board of Health, a position which he has held for sixteen years.

Orange Memorial Hospital has appointed Drs. William B. Brooks and G. A. Holdredge, both graduates of Bellevue Hospital Medical College, members of its house staff.

NEW YORK.

The Board of Health of Kingston has ordered all day and Sabbath schools closed on account of the rapid increase of *scarlet fever.*

The "Christian Science" bill, known as "the Bell bill," has been recommitted to the Committee on Public Health. Assemblyman Henry, chairman of this committee, very pertinently remarked that the "Christian Scientists" had had a *great deal to say about the efficacy of prayer, and of the wonderful cures they could effect by absent treatment,* but for reasons best known to themselves they had not tried that kind of treatment on the legislature, but had done all their praying in the lobby or assembly chamber.

Incorporation of Inebriates' Home.—A bill has been introduced to incorporate the Inebriates' Home of New York City. It is to be empowered to receive and retain inebriates under rules provided by the State Board of Charities for periods varying from six months to a year. The city is to provide for the maintenance of the home. It is contemplated that those who are unable to pay will be treated free. Drs. William T. Jenkins, A Campbell White and I. N. Love are said to be among the trustees.

Gift to Loomis Sanatorium.—Mr. J. Pierpont Morgan, *before sailing for Europe, purchased the plant of the Liberty* Electric Light and Power Company for about $40,000, and presented it to the Loomis Sanatorium for Consumptives. The sanatorium uses about 600 lights, and the village of Liberty about 700. This gift will not only enable the sanatorium to secure its lighting at small expense, but the plant will be a source of a steady income. Mr. Morgan had previously presented to the institution its administration building at a cost of $80,000.

Regulation of Hypnotism.—The senate committee on public health has reported a substitute for the bill of Senator McCabe to regulate the practice and teaching of hypnotism, mesmerism, suggestive therapeutics and other kindred sciences. The substitute relates only to hypnotism and mesmerism, and provides that any person who practices such, is not a duly licensed physician or graduate from some educational institution for the teaching of such sciences duly licensed by the regents of the state, shall be deemed guilty of a misdemeanor.

Abolition of Coroners.—A bill has been introduced into the assembly, by Dr. Nelson H. Henry, of New York City, to abolish coroners, a reform which was contemplated by the Constitutional Convention some years ago, but which has not yet been effected. It is contended that the present coroner system is antiquated and inefficient, involving as it does two functions which are naturally distinct; namely, ascertaining the cause of death, and determining whether or not a crime has been committed. The bill seeks to have the second function referred to the police, and the first, which is purely medical, vested—as in Massachusetts—in a medical examiner of experience and standing. Incidentally the proposed change would effect an annual saving of upwards of $100,000.

Buffalo.

The University of Buffalo Medical Department will hold its commencement exercises April 27. There are about fifty in the graduating class.

Dinner to Dr. Bissell.—Dr. William G. Bissell, bacteriologist of the health department, has recently conducted a course of lectures and laboratory instruction for graduates in medicine and dentistry, at the University of Buffalo. The members of this class, including many of the prominent physicians of Buffalo, extended to Dr. Bissell a complimentary dinner April 10. Dr. A. H. Briggs and J. H. Thompson of this city, and Dr. Walter Scott, former health officer of Niagara Falls, had the dinner in charge. Dr. Briggs acted as toastmaster.

New York City.

Dr. C. C. Fite, general manager of the Malt-Diastase Company, has resigned, to take effect May 1.

Dr. James T. Burdick, of Brooklyn, has gone to Bath to assume charge of the hospital of the State Soldiers' Home at that place.

Anti-Expectoration Crusade.—An official crusade against persons who expectorate in public conveyances and on the floors of public buildings was recently begun by John B. Sexton, president of the board of health. By Mr. Sexton's orders 180 policemen from the sanitary squad were detailed in plain clothes to ride up and down and across town in each of the five boroughs, to detect and take into custody any one expectorating in the cars. Nineteen arrests were made, and of this number only one offender was discharged. The others were held on from $100 to $500 bail for examination, were fined and discharged, or were paroled for examination.

Dr. Jacobi's Semi-Centennial.—On the evening of April 5, at the invitation of Dr. Abraham Jacobi, nearly a hundred of his friends gathered at the New York Academy of Medicine to help him celebrate the semicentennial anniversary of his graduation in medicine. He was graduated from the University of Bonn, Germany, in 1851. Dr. Jacobi was formally introduced by the president of the academy, Dr. Robert F. Weir. He then read a paper entitled "German Text-Books Half a Century Ago; History and Reminiscences." Most of the text-books to which he referred were volumes bearing many annotations in Dr. Jacobi's handwriting, and as they were piled up before him they made an interesting collection. They have been presented to the library of the academy. At the close of the address, a collation was served, and Dr. Jacobi received the congratulations of his many personal friends.

Special Courses.—The New York School of Clinical Medicine is giving, on Friday evenings, to June 7, lectures, including the following topics: "Examination of the Male Urethra by the General Practitioner: Clinical Demonstrations," by Dr. Ferd. C. Valentine; "Medical Questions of the Responsibility of Alcoholics, Opium and other Drug Takers," by Dr. Thomas D. Crothers, Hartford, Conn.; "Complicated Fractures: Diagnosis and Surgical Treatment of Prolapsed Kidney: With Clinical Demonstrations," by Dr. Augustin H. Goelet; "Treatment of Strangulated Hernia," by Dr. Carl E. Pfister; "Pelvic Trilogy in the Diagnosis of Diseases of Women," by Dr. A. Ernest Gallant; "The Technics of Major and Minor Amputations," by Dr. Robert H. Cowan; "Treatment of Obesity," by Dr. Heinrich Stern; "Diseases of the Stomach: Practical Examinations and Treatment. Demonstrations on Patients," by Dr. Freeman F. Ward, and "Psoriasis and Acne. Effective and Practical Methods of Treatment: Clinical Demonstrations," by Dr. W. R. Inge Dalton.

NORTH CAROLINA.

Dr. Richard H. Lewis, Raleigh, secretary of the State Board of Health, has appeared before the house judiciary committee to protest against the passage of the bill introduced to repeal that section of the law of 1899 requiring a three years' course in medical colleges. The committee reported unfavorably on the bill.

County Sanitary Committee.—Under the new law Dr. Thomas S. Burbank, Wilmington, has been appointed a member of the committee from that city, and Dr. Lionel H. Love, Wilmington, as representative for New Hanover County. These gentlemen, together with the county commissioners, constitute the committee and are required to meet May 6 and elect a county superintendent of health to serve two years.

OHIO.

Cincinnati.

Dr. Christian R. Holmes has been elected president of the Cincinnati Society of Natural History, and Dr. Arch I. Carson, secretary.

New internes at the German Deaconess hospital are Drs. Byron Sharkey and J. C. McGinnis, of Miami Medical College, Drs. Gustav Haeusser and George A. Buttermiller of the Ohio Medical College are alternates.

Tetanus.—Jacob Tiller, motorman of one of the traction cars, who was struck by a railroad train at a crossing, has died of tetanus. This is the fourth man within a few years wounded and dragged along the cinders of this tract who has died of tetanus. It is significant to note in this connection that every day numerous stock trains going to and from the stockyards pass over these rails.

OREGON.

The University of Oregon medical department, Portland, conferred degrees on a class of eleven April 1. The address to the graduates was delivered by W. D. Fenton.

A bill introduced by Senator Josephi, to establish state and county boards of health, and to provide for quarantine restrictions between counties, has passed the senate.

Health Commissioner Menefee claims that Portland is the healthiest large city in the United States, its mortality for 1900 having been at the rate of 10.05 per 1000.

Williamette University Medical College, Salem, held its annual commencement exercises April 3. Hon. William Kuykendall delivered the charge to the class, and president Willis C. Hawley conferred degrees on a class of five.

PENNSYLVANIA.

The Chester Board of Health, recently reorganized, elected Dr. S. V. Hoopman president, and Frank Innis vice-president.

Reorganization of State Medical Council.—The State Medical Council met for the purpose of reorganization, in Harrisburg, April 2, the following named being elected: President, Dr. Henry Beates, Philadelphia; secretary and treasurer, Dr. H. S. McConnell, New Brighton.

Philadelphia.

Samaritan Hospital has received $2500 through the will of Mr. George Widener, recently deceased.

Mount Sinai Hospital is to be given a benefit ball, April 13, by the Jewish friends of the institution. The proceeds will be added to the building fund.

Dr. Frederick A. Packard has been elected a member of the board of trustees of the University of Pennsylvania, to fill the vacancy caused by the death of Dr. J. M. Da Costa. Dr. Packard was graduated from the college department in 1882, and from the medical department three years later, at which time he won the Beates prize for the highest general average in final examinations.

The Committee on Appropriations, of the state legislature, visited Jefferson Medical College Hospital, April 1. The trustees have asked for an appropriation of $300,000 for the purpose of increasing the facilities of the hospital. The properties between the present institution and the old college building have been acquired and a new maternity building will be erected on this site.

Presentation of Dr. Keen's Portrait.—The presentation of the portrait of Dr. W. W. Keen, by 750 members of the different classes of Jefferson Medical College, to their Alma Mater, occurred in the clinical amphitheater April 4. The presentation speech was made by Dr. J. Chalmers DaCosta, and the address of acceptance by William Potter, president of the board of trustees. The portrait will be hung in the trustees' room in the new college building. It was painted by William M. Chase, of Philadelphia, and is nearly full length in size. It represents Dr. Keen wearing the robes of a Fellow of the Royal College of Surgeons.

Dr. Thomas Bond's Grave Found.—After a period of 108 years, the grave of Dr. Thomas Bond, Jr., of Philadelphia, has been found in the Presbyterian churchyard at Morgantown, W. Va. The brass plate on the coffin bore the inscription: "Hic jacet, Thomas Bond, Jr., of Philadelphia. Died July 17, 1793." Dr. Bond was the son of Dr. Thomas Bond, a well-known surgeon. Having studied medicine under his father he went to the front as a surgeon and was with Washington in the retreat through New Jersey, and was at the battle of Princeton. In 1776 he was made assistant surgeon of the First Troop, Philadelphia City Cavalry. In 1781 the Continental Congress appointed him medical purveyor, a commission which he held until 1793, when he contracted typhoid fever, which caused his death. His ashes will be brought to Philadelphia and interred in the cemetery at Fifth and Arch streets, where his father and uncle are buried.

WISCONSIN.

Z. G. Simmons has decided to present the city of Kenosha with a hospital, which will cost $30,000.

Dr. George W. Koeppel, Milwaukee, has been appointed an interne at the Emergency Hospital, Milwaukee.

Incipient Consumptives will be cared for in a home erected at a cost of $100,000, if Assemblyman Karel's bill is passed.

GENERAL.

Ann Arbor Plague Case.

In regard to the reported case of plague at Ann Arbor the following authoritative statement may be made. The accounts mentioned refer to Mr. C. B. Hare who has been doing special work in the hygienic laboratory for nearly two years. He was considered a very careful and intelligent worker, and after having had a year's experience in ordinary bacteriologic work he was allowed, last July, to cultivate the plague bacillus for the purpose of making Haffkine's vaccin for the firm of Parke, Davis & Co. Since last summer he has been engaged upon this and similar work, and it is probable that he became infected while thus engaged, although he does not know of any accident whereby he might have been infected. It is but proper to state in this connection that Mr. Hare has been the only student who has ever been allowed to work with the plague bacillus in that laboratory. Although medical students in their practical course work with the other well-known pathogenic bacteria, it has never been deemed advisable to trust a culture of the plague bacillus to even ordinary advanced students.

On Wednesday evening, April 3, Mr. Hare complained of numbness and of backache. His temperature rose during the night to 103 F., and he vomited once toward morning. He was seen that night and on Thursday noon by Dr. Spitzley, who made a provisional diagnosis of pleurisy. Thursday afternoon Drs. Vaughan and Novy learned of the condition of Mr. Hare and at once visited his room. The temperature was still at 103, and, although there was no glandular enlargement, it was deemed best as a precautionary measure to inject Yersin's serum; 20 c.c. of this were injected subcutaneously. Swabs made from the throat gave negative results. Shortly afterward he coughed up two or three bits of thick mucus, slightly streaked with blood, and in this material a few suspicious organisms were found. He was at once removed to the isolation hospital and his room closed up and disinfected with formaldehyde. On arrival at the hospital he was given another injection of serum and this was repeated on Friday morning and also in the afternoon. The temperature began to fall and, since Saturday morning, April 6, it has remained below 100 F. The condition of the patient at the end of the sixth day is very favorable. The early recognition of the case has rendered it possible to take every known precaution to prevent the infection spreading. All persons who have been in contact with the patient have received injections of Yersin's serum and rigorous disinfection methods are being carried out.

"Rudolf Virchow Fund."—On October 13, 1901, Rudolf Virchow will be 80 years old. When he completed his seventieth year a fund was started in his honor to enable the great master to facilitate scientific research by establishing scholarships, and by encouraging special medical and biological studies. Contributions to that "Rudolf Virchow Fund" were furnished by those in all countries interested in progressive medicine, as a homage to the man whose name is always certain to arouse admiration and enthusiasm. In Berlin a large committee has been formed to call for contributions which are to be added to the original "Rudolf Virchow Fund" so as to increase its efficiency. The committee expresses the opinion that in no better way, and in none more agreeable to the great leader of modern medicine, can his eightieth birthday be celebrated, and asks for the co-operation of all those engaged in the study and practice of scientific medicine all over the globe. A subcommittee has been formed for the purpose of making the American profession acquainted with the intentions of the Berlin Committee, and urges participation in honoring the very man who has done more, these fifty years, than any other to make medicine a science, and international. Subscriptions should be sent to the subcommittee's secretary—who will receipt therefor—Dr. A. Jacobi, 110 West 34th street, New York City. Other members of this subcommittee are: Drs. Charles A. L. Reed, president of the AMERICAN MEDICAL ASSOCIATION, Henry P. Bowditch, president of the Congress of American Physicians and Surgeons; William K. Welch, Johns Hopkins University, and Robert F. Weir, president of the New York Academy of Medicine.

CANADA.

Dr. Francois Martigny, formerly of Montreal, has been appointed assistant surgeon at the Hospital Peau, Paris.

A metrical association is being formed in Quebec, to further the work of introducing and adopting this system in Canada.

Smallpox has broken out near Halifax, N. S., and one death is reported. A general vaccination of that city began on April 7.

All non-vaccinated pupils in the schools of Kingston, Ont., are being dismissed in response to an ultimatum passed by the Board of Education.

Dr. Harold Thomas, Montreal, who has spent the last year studying in Germany, returns to his native city early in May to commence the practice of his profession.

The National Sanitarium Association has secured a building site about three miles from the center of Toronto, for the erection of a building for advanced cases of consumption.

The Ontario government is considering the advisability of erecting isolation hospitals at several lake ports, such as Collingwood, Sault Ste. Marie, Fort William and Port Arthur.

Dr. Price Brown, Toronto, has returned to the city from Asheville, N. C., and New Orleans, La., where he has been all winter in search of health. Dr. Brown returns much improved.

Queen's medical convocation took place on April 10. A pleasing feature was the presentation of the Dean Fowler scholarship, for which subscriptions are steadily being received.

Dr. J. Stafford, who has been associated with the biological department of Toronto University for the past three years, has been appointed lecturer in zoology at McGill University, Montreal.

Dr. W. C. Laidlaw, who has been connected with the Ontario Asylum service for the past five years, has left for Europe, to take a special course in the hospitals of the old land.

Dr. T. J. W. Burgess, superintendent of the Protestant Hospital for the Insane, Quebec, has been granted three months' leave of absence, which he will spend in the old country, recuperating his health.

The Presbyterian Hospital, Atlin, B. C., is progressing. All the work on the building has been done without charge but there is still a small amount owing for materials. There is no other hospital within many miles of Atlin.

Montreal General Hospital.—During March there were 218 patients admitted to the wards of this institution, and 257 discharged. Twenty deaths occurred. There were 3244 prescriptions and minor operations in the out-door departments.

Counter Prescribing.—Recently several druggists were fined for this in Toronto, and appealed to the sessions. The presiding judge has granted their appeal. The conviction was upset because of an irregularity in the form. Four other cases are now before the police magistrate, who states he will convict and keep on convicting along these lines.

New Medical Organization.—An association of practitioners in medicine and surgery has just been formed in the province of Ontario, under charter issued by the Ontario government, having its headquarters in Toronto. Stock can only be held by medical men, and the association will deal with supplies of all kinds. It has a board of nine directors, representing various sections of the province.

Vaccination Statistics.—The Hamilton Board of Education recently sent out circulars in regard to vaccination and in response thereto have received over 7000 replies. The figures show that about 33 per cent. of children attending the schools have been vaccinated. About 600 notified the Board that they object to vaccination. The Board of Education considered the matter and decided to have all those who did not object vaccinated.

Ontario Provincial Hospitals.—There are between fifty and sixty of these institutions in Ontario, and there has been a great increase in the number of patients during the past year. Two new hospitals, those at Sault Ste. Marie and Parry Sound, have been put on the government pay-roll. The number of patients remaining in the various hospitals on October 31, 1900, was 1893. The number admitted during the past year was 27,061; and the total number of patients under treatment during that time 29,761. The number of deaths during the year was 1451. The revenue from all sources, other than the government grants, was $498,579.17; and the provincial grant for the past year was $110,000. The average cost per patient per day was 83½ cents.

Medical Boards.—The Secretary of State for War having approved of medical boards composed of medical officers of the Canadian militia, being assembled to report upon cases of Canadian militiamen for pensions for services in South Africa, has authorized the following boards to investigate and report upon any such cases: In western Ontario, Surgeon-Major, J. N. Piper, London, and Surgeon-Captain, A. N. Hayes, Sarnia; for Toronto, Surgeon-Major Nattress, Surgeon-Major J. E. Elliott and Surgeon-Major J. T. Fotheringham; for Kingston and the East, Surgeon-Major H. R. Duff, Surgeon-Major R. W. Garrett and Surgeon-Major H. R. Abbott; in Quebec, Surgeon-Major J. G. Roy, Surgeon-Major C. W. Wilson and Dr. J. M. Elder, Second Regiment C. A., Montreal.

McGill Medical Faculty Changes.—An important change will come into effect in the Faculty of Medicine of McGill University in September, 1902, which will be an increase in the requirements for medical matriculation. At present McGill has as hard an examination as any of the medical faculties in Canada, but after the date specified, candidates will be required to pass in English, mathematics, and either French, German, Greek, chemistry or physics. They will all be required to show a practical knowledge of chemistry and a sound acquaintance with physics, statics and dynamics. The only optional subjects after that date will be French, German or Greek, of which one will have to be taken. Dr. Ruttan, registrar of the faculty of medicine, states that they want to make McGill the best medical school in the world. Some time ago the course was extended from six to nine months; and more recently a combined arts and medical course was introduced.

Cremation in Quebec.—Some months ago Sir William Macdonald, of Montreal, offered to bear the expense of a crematory if the Mount Royal Cemetery would conduct it thereafter. It was found that for this purpose legislation would be required, so a bill was introduced into the last session of the Quebec legislature, and after a somewhat bitter and stormy discussion on its merits it became a law. The strongest opposition came from the Roman Catholics, but it was pointed out that the purposes of the measure were not to seek power to cremate Catholics but for the erection of a crematory in a Protestant cemetery, at the request of protestants; and even then the legislation would not be compulsory. This law reads: "That the deceased at the time of his death is entitled to be buried in Mount Royal Cemetery and has expressed by his will a wish that his body be cremated." This is the first instance of the principle of cremation becoming law and a legal process in the Dominion of Canada.

Medical Service Legislations.—There is a bill now before the imperial parliament, so the Canadian Militia Department has been advised, which will open the door to Canadian doctors who may wish to enter either the imperial, naval, military or civil services. The measures will apply to medical men in all British colonies; and provides that where the examinations and courses of study at the leading colonial schools of medicine are in all respects equal to those of the United Kingdom, and subject to the supervision of the General Medical Council, that the medical men from Canada and other colonies of Great Britain may be permitted to serve the empire in these aforesaid services. This measure is said to be the outcome of the South African war, for which several Canadian surgeons of the highest repute offered their services, but they had to be refused owing to the medical law of England, and even a field-hospital from Canada had to be declined for the same reason. It is presumed that after the passage of this act the medical schools of Canada will require to have imperial approval of their examinations and courses of study, providing they wish that their graduates be accorded these privileges in the naval, military and civil services of the British Empire.

LONDON LETTER.

The Struggle Between the Board and Staff of the National Hospital for the Paralyzed and Epileptic.

This controversy, referred to last week (p. 976), at last seems to be approaching a satisfactory termination. The Board, or rather the "secretary-director," who has practically taken the control of the hospital into his own hands, has received a decided check. A special meeting of the governors and subscribers has been held to consider the question of holding an independent inquiry into the allegations of the medical staff as to the diet and condition of the patients, and the administration of the hospital, as a condition precedent to any reconsideration of the demand of the staff for direct representation on the Board, and also to lay down the conditions essential to such inquiry. The Lord Chancellor, who presided, said that the situation was most injurious to the hospital. One of the Board moved a resolution that an inquiry into the accuracy of the allegations of the staff ought to precede the reconsideration of the demand for representation. As an amendment it was then moved "That a full and independent inquiry be at once instituted by the governors into the statement of the medical staff, the facility of communication between the staff and Board, the demand for representation, the position, functions and acts of the secretary-director, and the constitution, rules and management of the hospital generally. The Board so far capitulated by accepting this amendment, which was therefore adopted unanimously. It was finally agreed that the committee of inquiry should consist of at least one physician or surgeon, one eminent lawyer, one business man and one other person, none of them being governors or members of the staff of the hospital. The nomination of this committee and other preliminary arrangements were entrusted to a committee including Sir John Paget, Mr. Jonathan Hutchinson and others.

The British Congress on Tuberculosis.

A preliminary program of this Congress, which will be held in London from July 22 to 26, has been issued:

Section I. State and Municipal.—In this section the following questions will be discussed: *Division I. Statistical.*—What conclusions may be drawn from statistics as to the connection between the mortality from phthisis and the condition contributing to it. In this connection regard will be had to the following points: 1, mortality during the late Queen's reign; 2, geographical distribution; 3, incidence of mortality in particular occupations; 4, age and sex distribution; 5, distribution in several sanitary areas of London; 6, heredity; 7, tabes mesenterica and milk-supply; 8, phthisis and soil; 9, indications for future research. *Divisions II and III. Notification.*—How can voluntary notification of advanced tuberculosis be best encouraged and effected? What is the experience of compulsory notification in New York, Buffalo and Washington? *Influence of Housing and Aggregation*: 1. How can a higher standard be attained of personal cleanliness, and of cleanliness of houses invaded with phthisis? How far are additional lighting and ventilation necessary to ensure a higher standard of bacteriologic cleanliness? How may cleanliness and sufficiency of light and air be secured in factories and workshops, ships, railway carriages, etc. *Division IV. Control of Milk and Meat.*—What changes are requisite for improving cowsheds and health and cleanliness in milch cows? What is the value of the tuberculin test? How may it be used to eradicate tuberculosis? What advantages in the prevention of tuberculosis are secured by sterilized milk, pasteurized milk, and milk obtained from herds free from tuberculosis and kept cool from the time of milking to reaching the consumer? How is the sale of tuberculous meat to be prevented? *Division*

V. Sanatoria.—What are the best means of promoting the erection of sanatoria for phthisical patients in which: 1, the curable may have the best chances of recovery; 2, the incurable may have their lives prolonged and cease to be a source of danger to the community. Among those who are expected to take part in this section are Dr. Herman Biggs, of New York City, and M. Mound, director of the French Public Health Service.

Section II. Medical.—Drs. Theodore Williams and Burney Yeo will open a discussion on :"What Influence Has Climate on the Treatment of Consumption and How Far can Cases be Grouped for Treatment in Certain Climates?" There will be a discussion on the "Therapeutic and Diagnostic Value of Tuberculosis," in which Koch is expected to take part.

Section III. Pathological.—A discussion on the "Morphological and Physiological Variations of the Bacillus Tuberculosis and Its Relations to Other Acid-fast Bacilli to the Ray-Fungus and to Other Streptothrices," will be opened by Dr. Moeller, of Berlin. A discussion on the "Tissue Changes and Constitutional Effects of the Various Constituents of Tuberculin" will be opened by Koch. Another on the "Varieties of Tuberculosis," will be opened by Professor Benda, of Berlin, Délépine, of Manchester, and Hamilton, of Aberdeen. There will also be a discussion on "Mixed Infection in Tuberculosis." Dr. Roux and Professor Metchnikoff, of Paris, are expected to take part in the work of this section.

Section IV. Veterinary.—The subjects are diagnosis of tuberculosis in animals, milk and meat supply.

Museum.—There will be a temporary museum illustrating the pathology, treatment and prevention of tuberculosis. It will consist of: 1, pathologic and bacteriologic preparations and specimens illustrating tuberculosis in man and animals; 2, plans and models of hospitals and sanatoria, and charts and documents bearing on the historical, geographical and statistical aspects of the subject.

The Open-Air Treatment of Tuberculosis.

Good results of the open-air treatment of consumption were narrated at the annual meeting of the Manchester Consumption Hospital. Of 141 patients, 121 were discharged improved, 6 remained stationary, and 14 became worse. There was an average gain of 9 lbs. in weight in the patients. The results compare favorably with those of continental public sanatoria from which percentages of 60 to 70 of cures are reported, against the Manchester's 85. The hospital is situated eight miles from the center of Manchester, in the Cheshire village of Bowdon.

The Epidemic of Arsenical Poisoning.

The following finding of the coroner's jury in a case of death from arsenical poisoning in Liverpool fairly apportions the blame: Bostocks' directors (the sugar manufacturers who supplied the whole of the contaminated sugar which caused the epidemic) are not culpably negligent, but to blame for not notifying that the acid was required for food purposes; Nicholson (sulphuric acid manufacturer, who supplied Bostocks with sulphuric acid contaminated with arsenic, which was used in converting starch into sugar) are not culpably liable, but displayed extreme indifference. Bostocks' chemist is negligent but not culpably so. Messrs. Bostocks have become bankrupt in consequence of the epidemic. The claims made by brewers and others for compensation for supplying impure glucose are sixty-seven in number, and amount to $650,000. On the other hand they have an action against the sulphuric acid manufacturers for $750,000.

Enucleation of the Tonsils.

At the Medical Society of London, Dr. St. Clair Thomson exhibited two cases showing the desirability, in certain cases, of removing the tonsils by enucleation. The first patient was a woman aged 38. In 1894 she noticed cheesy collections in her tonsils, of offensive taste and fetid odor. For this condition she was under continuous treatment three years. During two years she attended Dr. Thomson's clinic and was actively treated with gargles, paints, lozenges, caustics, the galvanocautery and incisions laying open the crypts. She remained unrelieved. Accordingly, two years ago, the tonsils were enucleated under chloroform and the patient was cured. Some regeneration of lymphoid tissue between the pillars of the fauces had taken place. The patient's voice was not in any way injured and was even improved for singing. The second patient was her son, a boy aged 10½ years. At 4 his tonsils were enlarged and were removed. He was not again troubled with them until after scarlet fever at the age of 6 when they were again enlarged and were removed with the guillotine. A few months later cheesy concretions were noticed in the crypts of the tonsils. Since that time they have increased without intermission. He was under treatment from September to December last. The chief complaint was of foul breath. The tonsil stumps were deeply imbedded betwen the faucial pillars. They were riddled with crypts, some of which were one-half inch deep. From these, dirty white fetid cheesy matter was easily extruded. It was impossible to thread these tonsillar stumps into the ring of the guillotine. The tonsils were enucleated under anesthesia, chiefly with a pair of curved scissors and the fingers.

FOREIGN.

The French department of public instruction has officially reaffirmed that the diploma of a technical school does not entitle the holder to admission to the university courses of literature, law or medicine.

Testimonial.—On the occasion of the election of Dr. R. Galvao to the chair of bacteriology at Rio de Janeiro, the *Brazil Médico* gave a luncheon in his honor at the offices of the journal. A superbly bound edition of his work, "Noções de Bacteriologia," with a dedication and the autographs of the guests, was presented to him.

Rumpf's Resignation.—Quite a sensation has been caused in Germany by Professor Rumpf's resignation of his position as director of the great Eppendorfer Hospital at Hamburg, on account of differences with the Oberin or matron of the institution, which were decided by the authorities in favor of the latter. He intends to move to Bonn.

Commemorative Monographs.—Professor von Coler, general staff surgeon to the German army and president of the Prussian Council of Health, celebrated his seventieth birthday recently. His friends, to commemorate the occasion, have collected a number of medical monographs by noted writers, which will be published in turn and known as the Coler Library. Subjects interesting army surgeons are especially numerous in the collection.

Diphtheria in Hospital.—Diphtheria broke out recently at the Paris hospital of la Saltpêtrière, in a ward containing 145 epileptic or idiot children. Twelve cases occurred in two days. These were treated by antidiphtheria serum and 7 to 15 c.c. were injected in every inmate of the ward. Only four new cases developed and all were mild, although the first case was promptly fatal.

Medical Students Abroad.—The statistics of the medical students in France, published by the *Semaine Médicale*, show that the total number is 8078, which includes 881 foreigners. The United States furnishes only 4 in 1901, to 5 in 1900; 1 in 1899; 6 in 1898; 10 in 1897; 14 in 1886. Roumania, Bulgaria and Turkey average over 100, and Russia 333. There are 44 students from Central and South America, 38 from Greece and none from China or Japan. The editorial urges the authorities to allow foreign students the privilege of taking their medical course in Paris, instead of being distributed among the provincial universities to prevent overcrowding. The attractions of Paris, it claims, would bring many more foreigners for the medical course if they were sure they could remain in the capital.

Damages for X-ray.—The Paris lower court has recently condemned a physician to 5000 francs damages and expenses on account of a severe X-ray burn that developed on a patient after three long exposures in the course of three weeks. The *Semaine Méd.* comments that physicians must bear in mind that when they apply these new physical therapeutics they step out of the domain of medicine and pass into the jurisdiction of common law. According to this French decision, a fault or negligence is not necessary—the mere application of physical measures which resulted in injury renders the physician liable to damages. The editorial concludes with the remark that justice, as practiced in the courts, is not partial to the medical corps in these days, and it behooves physicians to be wary.

Progress of the Plague.—For the week ending March 23, 46 cases of plague were admitted to hospital at Cape Town, S. A., and there were 21 deaths, 3 suspects and 394 contacts. According to advices of April 6, it is spreading among Europeans, although in a mild form. Five corpses were found concealed and 12 cases of recent origin were evenly divided between natives and Europeans. The rooms of the Young Women's Christian Association have been closed on account of a case discovered on the premises. This makes the total cases 315, and the deaths 107, including 22 Europeans. In Mauritius, for the week ending March 14, there were 5 new cases and 6 deaths. In Western Australia there are 8 cases of plague in whites—7 adults and 1 child, and 1 among the Chinese.

Government Report of Sydney's Plague.

A government report on the outbreak of plague at Sydney in 1900 has been issued. Between January 19 and August 9 there were 303 cases. Prodromal symptoms were rarely observed. Within a period of from one to twelve hours the patient became severely ill. Rigors, headache, vomiting, flushing of the face, and suffusion of the eyelids were almost constant symptoms, while the temperature ranged from 100 to 102 F. Constipation was the rule, but diarrhea sometimes occurred. In some cases during the early stages the glands were painful. Coma and delirium supervened and lasted to the fifth or sixth day. Improvement then began. On the tenth day, convalescence was initiated and the bubo suppurated. Such was the ordinary course, but in some cases the patients simply complained of feeling ill and died unexpectedly without definite symptoms. The form of the disease was almost exclusively bubonic, but 17 cases were septicemic and one pneumonic. The mortality was 34 per cent. Only 10 of the patients were Chinese, and they showed the high mortality of their race to plague; 8 died. For protective inoculation Haffkine's serum was employed on 10,700 persons, including the members of the various staffs. No illness occurred among the latter, excepting in the case of a scavenger who escaped inoculation. In the inoculated public 13 cases occurred, all of which were slight. Yersin-Roux serum was used in the treatment of 71. It was found to possess antitoxic properties, but was not to be relied on as a curative agent. The disease was not communicable from man to man, and was not conveyed in any important degree by clothing, merchandise or excreta. The infection originated in rats and is presumed to have been conveyed to man by fleas. The best and only defense against epidemic plague is declared to be good sanitation.

Correspondence.

Prof. Osler and the Assistant Surgeon in the Spanish-American War.

LOUISVILLE, KY., March 25, 1901.

To the Editor:—In view of the many adverse criticisms of the diagnostic abilities of the surgeons in charge of the sick during the Spanish-American War, I consider it a duty to show that only an entire misapprehension of the facts could possibly excuse such severe and unjustifiable indictments as exemplified in the following quotation from Dr. Osler's paper on "Medicine in the Nineteenth Century." The quotation, which is only one of many similar in tone, is as follows: "The worst indictment ever brought against the medical schools of this country is contained in a report by Reed, Vaughan and Shakespeare on the prevalence of typhoid fever during the Spanish-American War. Shades of W. W. Gerhard and of Austin Flint! The young doctors to whom we intrusted scores of valuable lives, had practically not gotten beyond the nosology of Rush. Of the total number of 20,000 cases of typhoid fever, only about 50 per cent. were diagnosed by the regimental or hospital surgeons." Then follows a reference to a number of cases, originally recorded as malarial fever, diagnosed as typhoid fever after having been transferred to a civil hospital.

It is easy to take a few cases transferred to a civil hospital, arriving perhaps with hasty diagnoses appended to the transfer slips, and upon careful observation, after a full maturation of the disease, decide that the appended diagnoses were often wrong. But what about those hundreds, indeed thousands, of cases that never reached a civil hospital, that never passed under the keen and careful observation of the great diagnosticians, cases that ran as a rule an atypical course with a lower mortality rate than was reasonable to expect in typhoid fever under camp conditions. Was the element of doubt not sufficient to deter the prudent surgeon from immediately condemning them to the strict regime of undoubted typhoid cases, by putting them at once in that class? Have these critics considered the conditions which made the careful and extended observation of these cases quite impossible?

I submit the following as a summary of the conditions under which we labored; this may enlighten our critics sufficiently to show that our work was, *on the whole*, as accurate as the conditions permitted. 1. The medical officer—I refer to the volunteer and contract surgeon—in the unfamiliar environments of a large military camp, overwhelmed with a constantly augmented mass of routine work only indirectly concerning the sick, found that the time available for the actual observation of his cases was quite inadequate for satisfactory work.

2. Cases were transferred without history charts, or at best with incomplete and comparatively valueless records. That it was practically impossible to correct this evil is explained by the condition of the hospital corps. In the handling of a large number of cases a doctor requires the assistance of intelligent attendants; yet we found ourselves with a hospital corps, deficient at best, disorganized by sickness and overwork and soon replaced with detachments of men, few of whom had ever seen a clinical thermometer, and who, because of general unfamiliarity with hospital work, demanded the constant attention of the surgeon to prevent their being an absolute menace instead of a meager help. This will explain the confusion of records and neglect of case histories.

3. The surgeon, without reliable histories, did not often remain long enough in charge of a given group of cases to be enabled to make careful personal observations to determine the accurate diagnosis. This was due to the continual redistribution, made necessary by the increasing sick-rate among the troops and the sick leaves granted surgeons themselves, resulting in the constant movement of a large number of junior medical officers to close up, as well as possible, the ever-recurring hiatuses in the service. These officers became often, in fact, medical nomads. In addition to this, there was a necessity of frequent redistribution of the patients on account of overcrowding, the movement of camps, commands, etc. This greatly increased the difficulty of making continued and competent observations.

4. The method of administration of medicines must not be overlooked. Obviously, to facilitate transportation and administration, most drugs were provided in tablet form; many of these tablets proved to be quite insoluble, and from personal observation I am sure that two-thirds of the quinin thus administered could have been recovered unchanged from the stools. Until the general attention was directed to this fact, it is not inconceivable that many atypical cases of typhoid fever were classed with cases of undoubted malarial origin which refused to respond to the administration of quinin; the insolubility of the tablets not being generally known rendering this important test negative.

5. Prodromal symptoms were not to be relied on in the face of the epidemic of "camp-malaise," which may be described as a varying combination of the following symptoms: pains in the back, abdomen and limbs—headaches, diarrheas, and gastric disturbances—physical and mental depressions; with temperature incidental to these symptoms and the frequent complications of acute venereal diseases. The surgeon found it difficult, indeed often impossible, to determine whether or not this train of symptoms was to denote the invasion of typhoid fever or was the result of the enervating camp work, drills, etc.—the penalty for absolute neglect of the simplest requirements of personal hygiene, or for the frequent intemperance in food and drink obtained outside of camp, or, perchance, an expression of the invincible combination of all these forces of morbidity.

6. Besides this train of functional disturbances, obscuring the prodromal symptoms of enteric fever, there existed the graver conditions of aggravated diarrheas and other severe intestinal disorders, combined with fevers of malarial or other origin, which often simulated the various stages of typhoid fever and gave clinical pictures, so anomalous that it became a matter of extreme difficulty to separate the real from the pseudotyphoid cases.

7. Another consideration of importance, though not directly concerning the subject in controversy, is the effect a sweeping diagnosis of typhoid fever would have had on the people in the home states. Every one officially interested was sufficiently aware of the alarming prevalence of this great camp disease to be alive to the necessity of taking every precaution of camp hygiene to check its progress. But a wholesale verdict of typhoid fever would have only served to increase the panic that took possession of those people who thought that there should be no mortality in an army save that inflicted by the bullets of the enemy; and in consequence we would have had

more examples of the deplorable interference due to public hysteria and misdirected sentiment, exemplified by the sending of special trains to convey the sick many hundreds of miles to civil hospitals. Certainly these cases stood a better chance of recovery, left quietly in any field-hospital, than after transportation on long journeys in ill-ventilated and ill-equipped trains with the attendant excitement and shock of removal to and from cars, ambulances, etc.

8. To leave the consideration of those unfortunate, though unavoidable, conditions which are so closely associated with all large military camps in time of war, and in which it is made clear that a careful and scientific study of any but selected cases was quite out of the question, I wish to refer again to the general peculiarities of camp fevers. Personal observation has convinced me that diseases, developing under such unusual conditions and environments, will rarely present the clinical picture seen in the disease in private practice. This may be explained by the marked physical and psychic modifications induced in the patient before the invasion of actual disease, by the changed conditions of nutrition, habitat and activity. These have certainly a strong influence on the metabolic mechanism of the body, producing in those patients observing hygienic precautions and suited for the radical change, a beneficial influence, enhancing vitality and resisting power and modifying favorably the disease; in others, neglectful of hygiene and unsuited for the radical change, assisting the evolution of the gravest and most complicated types. Perhaps this will explain the difference of mortality in the Civil War between the so-called "typhomalarial" fever—about 7 per cent. and the cases classed as typhoid (about 39 per cent.). I venture to suggest that, in the nimble plasmodium of Laveran and the ubiquitous bacillus of Eberth, it is possible we may not have the only bacterial agents capable of producing the symptoms so universally associated with paludal and enteric fevers; although it is undeniable that an enhanced tissue resistance or an attenuation of the specific organism of a disease may adequately account for the striking modifications of a large series of cases originating in military or other camps, and resulting in a great and uniformly reduced mortality.

It was therefore my opinion, and that of most surgeons, that a large number of cases recorded as malarial fever were really typhoid fever of a modified form; they were what the older doctors—those dominated by the nosology of the Civil War—would have called "typhomalarial fever" inasmuch as they failed to conform clinically to either typical typhoid or typical malarial fever, but maintained a middle ground with a low rate of mortality. Bacteriologic investigation in the field was practically out of the question. We refused, therefore, to perpetuate that unjustifiable term "typhomalarial," and used the term "malarial" in filling out the morning sick reports, rarely changing the diagnosis thus recorded unless undoubted symptoms proved this in error. We were justified in this as it was easy enough to point to a group of cases and say, "These are probably modified typhoid cases," yet for the reasons enumerated it would have been practically impossible to say of a single case in such a group, "this is *certainly* typhoid" or "this one is *certainly* a case of malarial fever." Therefore I think it is not to be regretted that we classed such doubtful cases with the malarias and administered antiperiodics, using as far as possible the dietetic precautions observed in typhoid fever, rather than to have classed them with undoubted typhoid cases and withheld quinin or at least a sufficient dosage to have made an impression on the paludal disease. It is to be remembered that most of these camps were in the South and constantly subjected to conditions favorable to the propagation of malarial fevers and the development of grave types.

However, eliminating all consideration of the analogy between these alleged *undiagnosed* cases of typhoid fever and the old Civil War quibble "typhomalarial fever," a consideration of the conditions which I have enumerated will make our work appear highly creditable: especially when we compare our low mortality rate with the best results of private and hospital practice, and more especially with the high rate in the African and other wars. Are not results, after all, the best criterion? Do they not testify that "the young doctors to whom we entrusted scores of valuable lives" fulfilled that trust about as well as their imperial medical majesties—our patronizing critics—could have done? I do not wish to be understood as criticizing the higher officers of the army—every one acquainted with the facts is aware that the obstacles and shortcomings were, in a large measure, not to be forseen; they were the inevitable consequences of organizing and equipping, on short notice, an army so large that the nucleus of trained officers and men, provided by the regular establishment, was but a meager leaven for the vast concourse of volunteers whose experience—when they had any—generally gained in those regimental picnics, called state camps, was entirely inadequate for the serious business of large encampments during actual war. The wonder is that they did so well. The ideal camp provisions that later shaped themselves with a riper experience and ampler opportunity certainly carried with themselves a vindication of the much maligned officers in command of the various departments concerned.

I am writing this for the edification of those doctors who fail to see an inestimable advantage in their opportunities for the extended examination and careful study of their cases, and who seem to have a confused idea of the difference between a modern health resort and a hastily prepared military camp.

Alexander Nettelroth, M.D.,
Late Acting Assistant Surgeon, U. S. Army.

Original Papers Used for Advertising.

Chicago, March 30, 1901.

To the Editor:—I notice in the advertising columns of The Journal of March 30, an advertisement which states: "Official Figures Reported to the American Medical Association by the Chairman of Section on Pediatrics," and then it goes on to give statistics where 6325 cases of diphtheria were treated with the advertiser's antitoxin, with a mortality of only 4.11 per cent., and 859 cases treated with all other American and foreign serums with a mortality of 7.46 per cent. These figures are taken from an article which is furnished to whoever applies to the manufacturer of the antitoxin referred to, and on the inside of the cover it states that "this is presented with the compliments of the author." I wish to ask if it is possible that this article was written as an advertisement for this particular antitoxin? If this is a fact, is it not a prostitution of the position of a chairman of a Section in the American Medical Association? Very truly,

Robert H. Harvey, M.D.

Fatalities of Spinal Cocainization.—P. Reclus states that spinal cocainization now has a record of six deaths in Europe. Goilav and Jonnesco, of Bucharest, have each reported a fatality. In the former's case 1.5 cg. of cocain was injected and a leg amputated. Two hours later the temperature rose to 38 and 40 C., pulse 125 and death in twenty hours. Juilliard has also reported a death the second day after an operation for hydrocele and inguinal hernia. The autopsy showed a ruptured aneurysm of the Sylvian artery. The vasoconstriction induced by the cocain may have been a factor in the premature rupture of the aneurysm. Even in Tuffier's case, in which a mitral lesion and acute edema of the lung have been assigned as the cause of death, Reclus queries whether the action of the cocain may not have been a factor in the evolution of the edema. Heumberg has also reported the death of a man of 30 in coma fifteen days after an operation under spinal cocainization. The autopsy disclosed hemorrhage in the cauda equina. In Dumont's case a febrile, tuberculous lad in bad general condition died two days after spinal cocainization, and no direct cause for the death could be discovered at the autopsy unless it were the cocain. This total of six deaths to less than 2000 applications of spinal cocainization, is not an encouraging record, he remarked, in the conclusion of his address to the Paris Académie de Médecine, March 19.

Deaths and Obituaries.

William R. Hall, M.D., major and surgeon, U. S. Army, Jefferson Medical College, Philadelphia, died from osteomyelitis, at Manila, P. I., April 2, after an illness of three weeks, aged 51. He was appointed assistant surgeon in the army in 1875, served in Alaska and the West, was attending surgeon at Washington, D.C., in 1898, chief surgeon at Camp Meade, Pa., and Key West Hospital during the Spanish-American War. He then requested to be assigned to active field duty in the Philippines. In November, 1899, he succeeded Major W. P. Kendall in command of the First reserve hospital in Manila, the largest hospital in the Philippines. During his regime, and largely through his efforts, the hospital was transformed from a huge insanitary and cumbersome institution into one of the best hospitals in the army service. He installed an ice plant, an electric lighting system and a plan of plumbing and drainage.

Edwin C. Baldwin, M.D., University of Maryland, 1844, a member of the American Medical Association, for many years a practitioner of Baltimore, some time vice-president of the Maryland Medical and Chirurgical Faculty, and president of the Northeastern Dispensary, died at Dover, N. J., March 25, aged 87.

William Fleet Luckett, M.D., University of Louisville, Ky., 1860, a surgeon in the confederate service during the Civil War, and thereafter a practitioner in Frederick County, Maryland, and since 1885 in Washington, D. C., died at his home in that city, March 30, after an illness of three months, aged 63.

John S. Scofield, M.D., Jefferson Medical College, Philadelphia, 1850, for many years a practitioner in Hillsboro, Texas, a charter member and several times president of Hill County Medical and Surgical Association, died at his residence near Hillsboro, March 23, after a long illness, aged 74.

John Dudgeon, M.D., C.M., Glasgow, Scotland, 1862, died recently at Pekin, China, where he had lived for more than thirty years. He went to China to take charge of the British Legation Hospital at Pekin, and continued in that position for more than twenty years.

Benjamin Franklin Wright Hurdman, M.B., C.M., McGill University, Montreal, 1882; L.R.C.P., L.R.C.S., Edinburgh, Scotland, 1883, formerly a resident of Ottawa, died at his home in Brandon, Manitoba, from pneumonia, March 30.

Joseph S. McCord, M.D., Chicago Medical College, 1872, who practiced for three years after his graduation and then abandoned medicine for the ministry, died at his home in Iowa City, Iowa, March 30, aged 51.

Henry C. Martin, M.D., University of Louisville, Ky., 1882, an early settler of Wichita, Kan., and for many years a practitioner in Harper, Kan., died at his home in that city, March 26, from pneumonia, aged 70.

Alfred S. Spearman, M.D., Jefferson Medical College, Philadelphia, 1852, who had practiced in Milwaukee for nearly half a century, died in Philadelphia, after a surgical operation, April 1, aged 68.

Charles E. Coates, M.D., University of Pennsylvania, Philadelphia, 1850, died at the residence of his son in Abilene, Texas, March 25, suddenly, aged 73. He practiced for many years in Baltimore.

John M. Glasgow, M.D., University of Iowa, Iowa City, 1874, a pioneer physician of South Omaha, Neb., died March 30, from carcinoma of the liver, at St. Joseph's Hospital, Omaha, aged 65.

George Hayward, M.D., Harvard Medical School, 1843, who practiced in Boston until 1875 and then retired on account of ill-health, died at his home in that city, March 30, aged 81 years.

Henry A. Roberts, M.D., Harvard University Medical School, Boston, 1896, died from tuberculosis, at the home of his father in Wakefield Corner, N. H., January 19, aged 32.

E. F. Meacham, M.D., University of Tennessee, Nashville, 1881, who practiced for several years in Nashville, and then retired, died at his home near Nashville, March 24, aged 49.

R. E. Johnson, M.D., aged 35, assistant physician at the State Hospital for the Insane, at Danville, Pa., was stabbed April 3, by an insane patient and died in a few minutes.

James H. Calvin, M.D., University of Wooster, Cleveland, Ohio, 1881, died at his home in Salem, Ohio, March 29, after a long illness caused by a spinal injury in 1892, aged 51.

James R. Nelan, M.D., University of Pennsylvania, Philadelphia, 1877, died suddenly at his residence in East End, Pittsburg, Pa., from heart disease, March 28, aged 50.

James Daton Gallagher, M.D., died April 1, at his home in Steubenville, Ohio, from tuberculosis contracted while an interne at Lakeside Hospital, Cleveland, aged 27.

Henry S. Clemens, M.D., University of Pennsylvania, Philadelphia, 1861, died at his home in Allentown, Pa., of pneumonia, March 28, aged 62.

William R. Warner, M.D., senior member of the firm of William R. Warner and Company, died April 3, from apoplexy, at his home in Philadelphia.

Thomas Couturier Robertson, M.D., University of South Carolina, Charleston, 1872, died at his home in Columbia, S.C., March 21, from pneumonia.

John Powell Hunter, M.D., University of Pennsylvania, Philadelphia, 1893, died at his home in West Chester, Pa., March 27, aged 35.

James T. Krepps, M.D., Jefferson Medical College, 1875, died at his home in Pittsburg, Pa., from cerebral hemorrhage, April, aged 54.

Societies.

Medical Association of the State of Alabama, Selma, April 16, 1901.

Medical Society of the State of California, Sacramento, April 16-18, 1901.

South Carolina Medical Association, Florence, April 17, 1901.

Medical Association of Georgia, Augusta, April 17, 1901.

Louisiana State Medical Society, New Orleans, April 18-20, 1901.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 23-26, 1901.

Texas State Medical Association, Galveston, April 23, 1901.

American Association of Genito-Urinary Surgeons, Old Point Comfort, April 30, 1901.

Association of American Physicians, Washington, D. C., April 30, 1901.

American Gastro-Enterological Association, Washington, D. C., May 1, 1901.

Kansas Medical Society, Pittsburg, May 2-4, 1901.

American Surgical Association, Baltimore, Md., May 7-9, 1901.

American Therapeutic Society, Washington, D. C., May 7-9, 1901.

Nebraska State Medical Society, Lincoln, May 7-9, 1901.

Oklahoma Territory Medical Association, Oklahoma City, May 8, 1901.

Mississippi State Medical Association, Jackson, May 8, 1901.

Washington State Medical Society, Seattle, May 8-9, 1901.

Ohio State Medical Society, Cincinnati, May 8-10, 1901.

Arkansas Medical Society, Hot Springs, May 14-16, 1901.

Medical Association of Montana, Great Falls, May 15-16, 1901.

Michigan State Medical Society, Battle Creek, May 15-16, 1901.

Iowa State Medical Society, Davenport, May 15, 1901.

Indiana State Medical Society, South Bend, May 15-17, 1901.

New Hampshire Medical Society, Concord, May 16-17, 1901.

Medical Association of Missouri, Jefferson City, May 21-23, 1901.

Illinois State Medical Society, Peoria, May 21-23, 1901.

Medical Society of North Carolina, Durham, May 21-23, 1901.

Connecticut Medical Society, Hartford, May 22-23, 1901.

Kentucky State Medical Society, Louisville, May 22-24, 1901.

Medical Society of West Virginia, Grafton, May 22-24, 1901.

American Laryngological, Rhinological and Otological Society, New York City, May 23-25, 1901.

American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.

American Gynecological Association, Chicago, May 28, 1901.

American Climatological Association, Niagara Falls, N. Y., May 30, 1901.

Pawtucket (R. I.) Medical Association.—The sixth annual meeting of this body was held March 21, when Dr. George H. Stanley was elected president; Dr. Charles H. French, vice-president; Dr. Charles A. Glancy, secretary; and Dr. Charles A. Stearns, librarian.

Medical Association of the State of Alabama.—The annual session of this Association will be held in Selma April 16-19, under the presidency of Dr. Russell McWhorter Cunningham, Ensley. Dr. Samuel G. Gay, Selma, is chairman of the committee of arrangements.

Silver Bow County (Mont.) Medical Association.—At the annual meeting of this organization, held in Butte, Dr. John W. Gunn was elected *president;* Dr. Donald Campbell, vice-president; Dr. John A. Donavan, secretary; Dr. William L. Renick, corresponding secretary, and Dr. Thomas A. Grigg, treasurer, all of Butte.

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President, Dr. Denslow Lewis, in the chair.

Interstitial Nephritis.

DR. EDWARD F. WELLS read a paper on "The Diagnosis and Prognosis of Chronic Interstitial Nephritis." He stated that middle-aged or older men, who are robust, actively and energetically aggressive, and good livers, are peculiarly apt to develop this malady. These are the successful men of affairs, who often take out large lines of life insurance, and who from many points of view are desirable policy-holders. But it is in this class that the largest and most unexpected losses occur. In private practice they are patients who give their physicians much concern and anxiety. They do not bear the severe acute infections well, and are peculiarly liable to chronic interstitial nephritis. This disease and the associated cardiovascular changes have their beginning at the time when the essential chemico-toxic causative agent appears in the blood in such quantity as to irritate, in the peculiar manner necessary to bring about the characteristic lesion in the capillary endothelia, particularly in the kidney. There may be, therefore, a distinct premonitory stage, and there is certainly a very early stage of the disease in which the lesions are very slight, but these stages must elude observation until we shall have at our hands more definite information as to the essential cause of the malady, together with the means of detecting it in the blood, secretions or excretions, or until certain symptoms which are now of doubtful significance shall have been given a more definite value. Every person, middle-aged or over, should have the urine examined twice a year, and in the case of a robust, active man who is a good liver, and who is engrossed in business, such examination should be made three or four times a year. The prognosis of chronic Bright's disease is in every way bad, as to recovery. However, on an average the prognosis for prolonged life is much better than is ordinarily supposed. Even after uremic symptoms have become manifest, if such patients are surrounded with every device at command, their lives may be prolonged for many years. With all this, physicians must not under-estimate the gravity of such cases or lose sight of the fact that in many instances death occurs within a comparatively short period after the recognition of the affection.

DR. JOHN M. DODSON stated that it is an established fact that certain well-recognized diseases of the kidney and of the vascular system are due to toxic agents circulating in the blood, which normally are eliminated in the urine. The question which the examiner is called upon to determine is not how long the individual is likely to live, but whether he is or is not absolutely healthy at the present time. In regard to uric acid disorders, it is difficult to determine the presence or absence of them in an ordinary examination. The examination of a single specimen of urine is of very little value. The most important features are the total quantity and the total solids. Theses two factors considered jointly furnish a measure of what the kidneys are doing. In the early stages of the disease the vascular system is of especial importance. Slight disturbances of the heart and blood-vessels are likely to occur early in the group of disorders. He thoroughly agreed with Dr. Wells that the view popularly held by the laity and even among physicians, as to the gravity of prognosis, is a mistaken one, especially with proper treatment, provided the patient is tractable and willing to follow directions. It is not a question of drugs, but of dietetic and hygienic management.

DR. JOHN A. ROBISON said there is one point of importance to the examiner and the insurance company, namely, that they obtain from the family physician a detailed history of each patient in whom they suspect kidney disease. He did not think it would be a breach of confidence on the part of the family physician to give this information, if agreeable to the applicant, and it would also be to the interest of the applicant. There is no applicant for insurance who wishes to be turned down. He would rather be told beforehand that he can not pass, so that he may go to some other company whose rules are not so rigid.

DR. FRANK BILLINGS has long had in mind the following division of chronic interstitial nephritis as he sees it clinically: 1. The classical nephritis which is associated with the anatomical changes in the kidney with the cardiovascular fibrosis so common to the disease and often the fibrosis extending to other organs, such as the liver—a chronic hepatitis. 2. Another set of cases in which the kidney has fibroid changes going on in it probably from the beginning, while the cardiovascular changes are but slight, so slight that a cursory examination would not reveal them. 3. Those cases in which the cardiovascular changes are marked and the kidney but little involved at first, as is evidenced by the excretion of solids. Then another class of cases which occurs, especially in women, and which he has not yet definitely classified. They are cases in which the urine is markedly insufficient and deficient in solids of all kinds and almost classical as far as the relation of the solids go to each other, with diminution in urea, phosphates, in chlorids and sulphates, and low specific gravity. There are no cardiovascular changes, but marked nutritional ones, as shown by the flabby musculature and the secondary anemia. These patients have but little endurance for mental or physical work. They go on for a long time until proper hygienic measures are instituted. Sometimes a small amount of albumin is found with hyaline casts, etc. These are the four classes of cases. The first is easily recognized. The second, in which the kidney is doubtless involved without much vascular change, the essayist had referred to as the insufficient kidney—insufficient not only in solids, but in fluids as well. The urine is not increased in amount because the cardiovascular changes are perhaps coincident with the kidney change. Then comes the third class in which there is insufficient urine both in quantity and quality, but without the cardiovascular changes. He is satisfied that these different classes of cases exist, and that there must be some toxin which differs in each; some difference in the quality or quantity of toxin in the one case affecting the whole cardiovascular system or kidney, and in another affecting chiefly the kidney, selective in character. The cardiovascular system finally reaches a condition in which the whole vascular tone is diminished, because of faulty digestion, assimilation, metabolism, or what-not.

One of the signs indicative of a bad prognosis is hemorrhage. If it occurs in chronic interstitial nephritis, such as a real hemorrhage into the retina or elsewhere in the body, in the skin, etc., the patient will die in two years or less time. He is at the beginning of the end. He has observed albuminuric retinitis in patients for as long as five or six years. In one patient it was present for over seven years, but if there be real hemorrhages, subcutaneous, submucous, into the eye, or stomach, or from the bowel. in any amount, then we may expect death within two years.

DR. DENSLOW LEWIS said that the increase in mortality during middle life in Chicago and other large cities is due, in his judgment, chiefly to a change in the mode of life among business men. The concentration of energy, the accumulation of wealth, the development of club life, with all that implies, produce often errors of digestion and a faulty metabolism which may manifest themselves in kidney lesions. In most cases the advent is insidious and the true condition of affairs can only be recognized by repeated examinations extending over some little time. When it is appreciated that large policies are taken out as a rule by men in middle life, whose actual state of health is not easily determined without very careful investigation, the absurdity of the usual methods is apparent. If physicians are to be consistent, something more is necessary than the determination of the presence or absence of albumin and sugar or the recognition of a few casts.

DR. WELLS, in closing, thought Dr. Robison's plan of inviting the family physician to join in insurance examinations, or to obtain information from him, impractical. The information obtained by the family physician should be inviolate. If he should furnish such information, he would necessarily do so as the advocate of the patient and not as an aid to the insurance company. He believes that the sphygmograph is the most valuable instrument for measuring and recording the tension and elasticity of the artery. It is certainly much more reliable than the finger, and it will show everything that the finger will, and more. In addition to this, it is a matter of record and can be referred to later. He said cases referred to by Dr. Billings as being rapidly fatal are those which every physician has met. The reason, probably, is that in such cases the heart and vascular system is hypertrophied to such a degree that when it once begins to lose the balance which has only been kept up by extraordinary efforts, the downward course is more rapid than where the balance has been kept up by a very much less cardiac effort. His own experience as to hemorrhages is entirely in accord with that of Dr. Billings.

Methods of Examination for Industrial Insurance.

DR. W. S. ROYCE read a paper on this subject. Industrial insurance was defined as an insurance on healthy individuals, covering all ages for 2 years next birthday to 70 years inclusive, in amount ranging from $8 to $1200 per policy, with premiums running five cents a week and multiples thereof up to $1 collected weekly by the company's agents at the applicant's house, with four weeks of grace in the payment, with proceeds of the insurance payable at death or at the end of the endowment period, and with all claims paid immediately upon proof and with paid-up policies, cash dividends and extended insurance.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

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Dr. F. M. Perkins in the chair.

Funnel Chest.

DR. C. A. E. CODMAN read a paper entitled "The Acquired Form of Funnel Chest, with Report of Cases." The speaker has found that many writers regard this condition as a somewhat rare one. Ebstein believes that the funnel-shaped chest may be due to injuries or disease of the osseous system, or that it may arise from certain changes occuring during fetal life. The condition therefore may be either acquired or congenital. Diseases of the respiratory system, such as pneumonia and bronchitis, may play an important part in its development. The reason it does not occur more frequently in rickets is because in this disease all the bones are equally involved in disturbances of nutrition. The treatment is gradual exercise, and respiratory practice. The speaker detailed a series of cases he had treated.

DR. THOMAS J. MAYS spoke of the etiology. As to the mechanism of its production, one should remember that the external chest adapts itself to internal pressure. If there be an adhesion to the sternum, for instance, the chest will be pulled inward.

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DR. J. A. SCOTT thought the results obtained were good, but that arthritis deformans and allied conditions should be more accurately studied and properly classified. As to the cause of rheumatism, he pointed to the findings of certain micro-organisms by different investigators.

Dr. A. A. Eshner referred to a case of arthritis deformans which had been presented before the Society several years ago.

Dr. Rugh spoke of cases of this disease in which he tried the hot air treatment for a year, but without any improvement whatever.

Fango-therapy

Dr. W. C. Hollopeter read a paper on this subject. The speaker had become interested in this from the good results reported from Italy. "Fango" is a kind of mud or clay obtained in certain hot springs in Italy. The material rises to the surface in bubbles of air, which on bursting deposits this soft greyish, or brownish material around the edges of the springs. Chemically it is composed of iron, alkalies, phosphates, carbonic acid gas, etc. The material may be exported in barrels. The material may be laid directly on the body and is easily removed by warm water. As the patient lies upon the bed a hot moist blanket is slipped under him, this being protected by a rubber sheet. Fango is then applied in a layer, and afterward the parts are wrapped up and allowed to remain for half to one hour. The parts are then douched and massage and Swedish movements applied thoroughly. The speaker reported certain cases of arthritis and rheumatism in which this treatment brought about marked amelioration of the symptoms. The treatment is indicated in such conditions as neurasthenia, peripheral neuralgia, etc.

Dr. F. Savary Pearce said he had noticed good results from this treatment in cases of neuritis, and it might be of considerable value in patients suffering from uric acid poisoning.

Dr. Charles W. Burr stated that through the invitation of Dr. Hollopeter he had seen the methods used. He is under the impression that it might be indicated in all those conditions in which a poultice of any kind is indicated. He does not believe that the chemical constituents of fango would have any influence in bringing about the good results. He could see how good results might be obtained by the methods in certain types of neuritis.

Antipneumococcic Serum.

Dr. I. Newton Snively read a paper on "The Treatment of Croupous Pneumonia by Antipneumococcic Serum." The speaker had written to the various health departments in five of our largest cities, to find out the total number of deaths from pneumonia and tuberculosis—about 4000 more from the former than from the latter disease. In Philadelphia there were 240 more deaths from pneumonia than from tuberculosis. The speaker reviewed the literature on the subject, from the time of the discovery of the pneumococcus by Fraenkel. In about 75 per cent. of the cases the disease is caused by the pneumococcus. A considerable percentage is due to a mixed infection. In this disease the things to be most dreaded are endocarditis and toxemia. If a mixed infection exists, the condition is more or less of a septic one. The speaker detailed a series of cases of croupous pneumonia in which the antipneumococcic serum was used with marked benefit. The usual dose was 20 c.c. given hypodermically, and repeated every three hours. The serum itself appears to be practically harmless. Dr. J. C. Wilson had given as much as 400 c.c. without causing dangerous symptoms. One of his patients was given 360 c.c. within sixty hours. The good results of the remedy will doubtless be obtained in those cases of pneumonia due to the pneumococcus only, and it should be given early. He had collected a series of 113 cases of pneumonia treated by the serum, with 13 deaths.

Dr. J. M. Fisher had recently tried antipneumococcic serum in 2 cases of pneumonia, but he could not say that good results had followed.

Dr. Edwin Rosenthal uses both antipneumococcic and antistreptococcic serum in children, with benefit.

Dr. W. E. Hughes referred to some experiments along this line made by Dr. W. S. Carter and himself, years ago. They used human serum from cases of pneumonia. No crises ever took place from the serum so used.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting held March 18.

Dr. Parker Syms, president.

Primary Carcinoma of the Tip of the Appendix.

Dr. J. Riddle Goffe presented this specimen, which had been removed from a girl of 17, who had suffered from a chronic appendicitis. The growth appeared to be primary in the appendix. Specimens from the tumor and adjacent structures were exhibited under the microscope.

Operative Treatment of Hemorrhoids.

Dr. William Duff Bullard read a paper on this subject. He said that the only methods of treatment worthy of serious consideration are the injection method, the Whitehead operation, the ligature operation and the clamp and cautery operation. He does not approve of the injection treatment, and consequently has had no personal experience with it. If cleverly done, it gives temporary relief, but is the stock in trade of charlatans. From 5 to 30 drops of the solution are injected at a time, the object being to secure contraction of the blood-vessels and adhesions betwen the mucous membrane and the submucosa. Sometimes these injections cause the formation of ulcers or fistulæ, or give rise to diffuse inflammation. They have even been charged with causing pyemia and death, but he has been unable to find a well authenticated case of death from this cause. He thinks the Whitehead operation is a difficult one, and liable to be followed by various mishaps, and that, fortunately, its popularity is waning. In the ligature operation the sphincter is first dilated with the fingers and then the first hemorrhoids to be attacked are those lying on the posterior wall close to the anus. Where the attachment of the hemorrhoid is broad, it should be cut loose from the skin and cubcutaneous tissue in a line parallel to the long axis of the gut. The patient should be kept in bed until the ligatures have come away, or about one week, the bowel being confined for the first two or three days by the use of an opiate. In doing the clamp and cautery operation, the hemorrhoids are successively seized with the clamp, cut off, and the stump thoroughly seared with a hot iron, care being taken to leave a thick eschar lying in the direction of the long axis of the bowel. Three grasps of the clamp are usually sufficient, but more might be made if thought desirable, provided precaution is taken to see that the eschars lie in the long axis of the gut. The patient is usually out of bed in five days. The speaker is disposed to think there is more danger of recurrence after the use of the ligature than with the clamp and cautery.

Dr. James P. Tuttle said that a rather extensive experience with the injection treatment justified him in asserting that a large number of cases of hemorrhoids, if not too advanced, can be radically cured in this way, although the method is certainly not applicable to all varieties. Many cases of hemorrhoids in the early stages are quite amenable to simple local treatment combined with dietetic and hygienic measures. In these cases, if the sphincter is gradually dilated on alternate days, with a bougie, and the patient directed to use cold applications and injections of such astringents as krameria, the patient will be greatly benefited. Occasionally the injection treatment was followed by the formation of a slough, but this may be said against either the ligature or the clamp and cautery operation. In performing the Whitehead operation the error of removing the tissue too deeply is often made.

Dr. John F. Erdmann said that he had used the injection method in several cases, but there is just as much discomfort attendant on its use as if cocain had been injected; hence, it would be better to do a more radical operation under local anesthesia. Nor does he approve of the Whitehead operation. He prefers the ligature to the clamp operation, though he has used both. After either, the patient is only required to remain in bed a sufficient length of time to guard against secondary hemorrhage; hence the period of confinement should be the same after both operations. Secondary hemorrhage sometimes follows either of these. The Whitehead operation is more liable to be followed by stricture than are the other two, but this accident might occur after any one of these operations.

Dr. Goffe thought the Whitehead operation had been too harshly criticized. He has found it advantageous, when doing this operation, to make use of four sustaining sutures.

Arteriosclerosis.

Dr. Isaac Adler read a paper on this topic. He thinks that while Thoma's theory affords a sufficient explanation for the lesions in the larger and largest vessels, it does not adequately account for the alterations observed in the smallest vessels and in the parenchyma. The arteriosclerosis is not confined to the blood-vessels, but manifests itself in the organs and tissues as a hyperplasia at first, and ultimately as a more or less diffused fibrosis. It is by no means a disease of senility, but makes its appearance at all periods of life, even in infancy. Local and general arteriosclerosis are often associated with certain intoxications, e. g., gout. Hereditary predisposition is probably an important factor in the etiology of arteriosclerosis. The clinical recognition of this pathologic process is not always easy. The accentuation of the second aortic sound is pathognomonic, but its absence proves nothing. Hypertrophy and dilatation of the left ventricle of the heart are only present in a limited number of cases, and increased blood pressure is not a constant symptom. The cardiac type often begins in the smallest branches of the coronary arteries. The renal type apparently commences in the interstitial tissue of the kidney, and in the early stages even the examination of the urine leads to no positive results. At a somewhat later stage it is characterized by a urine of low specific gravity, the occasional presence of a trace of albumin and the constant presence of granular casts. Still another class of cases may be denominated cerebral, and it is possible to distinguish clinically a spinal and a gastro-intestinal type. The cases of spinal type in a general way resemble tabes, but lack the progressiveness of that disease. Under the head of gastro-intestinal he would include arteriosclerosis of the liver and pancreas, many cases of arteriosclerosis showing an advanced stage of this process in the pancreas. The most that the physician can hope to accomplish by therapeutic measures is to arrest the process, and fortunately this is within his power, especially in those cases dependent on some form of intoxication. In every case of arteriosclerosis he would urge the systematic and persistent use of the iodids.

Dr. C. E. Quimby said he believes that anything which affects tissue nutrition may lead to arteriosclerosis by weakening its effective forces. Aortic accentuation means only high arterial tension, and unless it is persistent it is not an indication of arteriosclerosis.

Dr. N. E. Brill referred to a case of arteriosclerosis occurring in a girl of 12. When admitted to the hospital in 1888, there was marked hypertrophy of the heart, the temporal arteries tortuous and the radials hard. The urine contained a trace of albumin and numerous hyaline and granular casts. An infarction had formed in the spleen, and shortly afterward intestinal hemorrhage and death followed. The autopsy revealed an arteriosclerosis of astonishing extent and degree.

Dr. Louis Faugères Bishop remarked that he had found arteriosclerosis exceedingly common and well marked in the negro race.

Association News.

Annual Announcement.

The fifty-second annual session (54th year) of the American Medical Association will be held in St. Paul, Minn., on Tuesday, Wednesday, Thursday and Friday, June 4, 5, 6 and 7, commencing on Tuesday at 11 a. m.

DELEGATES.

The delegates shall receive their appointment from permanently organized state medical societies, and such county and district medical societies as are recognized by representation in their respective state societies, from the medical department of the Army, the Navy and the Marine-Hospital Service of the United States, and from oral and dental societies in good standing. *Provided*, however, that no state, county or other auxiliary body sending representatives shall receive into its membership any one who may, after 1901, have received the degree of Doctor of Medicine on less than four years of graded instruction or an equivalent requirement.

Each delegate shall hold his appointment for one year, and until another is appointed to succeed him, and shall participate in all the business and the affairs of the Association.

Each state, county and district medical society, entitled to representation, shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number. *Provided*, however, that the number of delegates from any affiliated society shall not exceed the ratio of one in ten of the members of such society. The Army and Navy, and the Marine-Hospital Service of the United States shall be entitled to the same proportionate representation as that of affiliated medical societies.

No individual who shall be under sentence of expulsion or suspension from any state or local medical society of which he may have been a member, or whose name shall have been, for non-payment of dues, dropped from the rolls of the same, shall be received as a delegate to this Association, or be allowed any of the privileges of a member, until he shall have been relieved from the said sentence or disability by such state or local society, or shall have paid up all arrears of membership; nor shall any person not a member and supporter of a local medical society, where such a one exists, be eligible to membership in the American Medical Association.

No one expelled from this Association shall be received at any time thereafter as a delegate or member, unless by a three-fourths vote of the members present at the meeting to which he is sent, or at which he is proposed.

PERMANENT MEMBERS.

The permanent members shall consist of all those who have served in the capacity of delegates, and of such other members as may receive the appointment by unanimous vote, and shall continue such so long as they remain in good standing in the body from which they were sent as delegates, and comply with the requirements of the By-Laws of the Association. Permanent members shall at all times be entitled to attend the meetings, and participate in the affairs of the Association, so long as they shall continue to conform to its regulations, but without the right of voting.

MEMBERS BY APPLICATION.

Members by application shall consist of such members of the state, county and district medical societies entitled to representation in this association as shall make application for admission, in writing, to the treasurer, and accompany said application with a certificate of good standing, signed by the president and secretary of the society of which they are members, and the annual fee, $5. They shall have their names on the roll, shall have all the rights and privileges accorded to permanent members, and shall retain their membership on the same terms.

MEMBERS BY INVITATION.

Members by invitation shall consist of distinguished practitioners of foreign countries who may be invited by the officers of Sections or of the Association. They shall hold their connection with this Association until the close of the annual session to which they are invited, and shall be entitled to participate in all of its affairs, as in the case of delegates, but without the right to vote.

RIGHT TO VOTE.

Every member-elect, prior to the permanent organization of the annual meeting, or *before voting on any question*, after the meeting has been organized, *must exhibit his credentials to the proper committee*, and sign these regulations, inscribing his name and address in full, specifying in what capacity he attends, and, if a delegate, the title of the institution from which he has received his appointment.

DELEGATE BADGES.

No one can be registered as a delegate without a certificate as called for by the above clause in the Constitution. Delegates will be furnished with delegate badges on presentation of their credentials.

REGISTRATION AT MEETING.

Each delegate or member, when he registers, is requested to record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section officers.

ADDRESSES IN SECTIONS.

The Chairman of each Section shall prepare an address on the recent advances in the branches belonging to his Section, including such suggestions in regard to improvements or methods of work as he may deem important, and present the same to the Section over which he presides on the first day of its annual session. The reading of such address shall not occupy more than twenty minutes.

LENGTH OF PAPERS.

No paper, the reading of which occupies more than twenty minutes, shall be read before any Section.

ORATIONS.

The following annual orations will be delivered: On Medicine, Dr. N. S. Davis, Jr., Chicago; on Surgery, Dr. John A. Wyeth, New York City; on State Medicine, Dr. Geo. M. Kober, Washington, D. C.

Chairman, Committee of Arrangements, Dr. John F. Fulton, St. Paul, Minn.

PROPOSED AMENDMENTS.

Amendment to the Constitution and By-laws, offered by Dr. D. Benjamin, Camden, N. J.: A committee on statistics shall be annually appointed by the president.

Amendment to the Constitution and By-laws, offered by Drs. Guy Hinsdale, Philadelphia, and L. B. Tuckerman, Cleveland, Ohio: Resolved, That Article I, Section VIII, of the By-laws, be changed, so that the Nominating Committee shall include a *delegate to be elected by each one of the component* Sections.

OFFICERS OF SECTIONS, 1900-1901.

Practice of Medicine—Chairman, J. M. Anders, Philadelphia; Secretary, Wm. Britt Burns, Memphis, Tenn.

Obstetrics and Diseases of Women—Chairman, Henry P. Newman, Chicago; Secretary, C. L. Bonifield, Cincinnati, Ohio.

Surgery and Anatomy—Chairman, A. J. Ochsner, Chicago; Secretary, Martin B. Tinker, Johns Hopkins Hospital, Baltimore, Md.

Hygiene and Sanitary Science—Chairman, Ernest Wende. Buffalo, N. Y.; Secretary, J. N. Hurty, Indianapolis, Ind.

Ophthalmology—Chairman, J. A. Lippincott, Pittsburg, Pa.; Secretary, E. C. Ellett, Memphis, Tenn.

Diseases of Children—Chairman, Samuel W. Kelley, Cleveland, Ohio; Secretary, Wm. E. Darnall, Atlantic City, N. J.

Stomatology—Chairman, R. R. Andrews, Cambridge, Mass.; Secretary, Eugene S. Talbot, Chicago.

Nervous and Mental Diseases—Chairman, H. A. Tomlinson, St. Peter, Minn.; Secretary, F. Savary Pearce, Philadelphia.

Cutaneous Medicine and Surgery—*Chairman*, W. L. *Baum*. Chicago; Secretary, R. R. Campbell, Chicago.

Laryngology and Otology—Chairman, John N. Mackenzie, Baltimore; Secretary, George C. Stout, Philadelphia.

Materia Medica, Pharmacy and Therapeutics—Chairman, N. S. Davis, Jr., Chicago: Secretary, J. N. Upshur, Richmond, Va.

Physiology and Dietetics—Chairman, Elmer Lee, New York City; Secretary, R. Harvey Cook, Oxford, Ohio.

Pathology and Bacteriology—Chairman, Ludvig Hektoen, Chicago; Secretary, Frank B. Wynn, Indianapolis, Ind.

Medical Societies Entitled to Representation in the American Medical Association

April 1, 1901.

In accordance with the Constitution, this list is prepared as certified by the secretaries of the State and Territorial medical societies.

ALABAMA.

Alabama State M S., and all County Societies.

ARIZONA.

Arizona M. A.
Maricopa County M. S.
Pima County M. S.
Yarapai County M. S.

ARKANSAS.

Arkansas State M. S.
Baxter County M. S.
Benton County M. S.
Boone County M. S.
Craighead County M. S.
Crawford County M. S.
Eureka Springs, Carroll County, M. S.
Hempstead County M. S.
Hot Springs M. S.
Independence County M. S.
Jefferson County M. S.
Lee County M. S.
Little Rock M. S.
Phillips County M. S.
Polk County M. S.
Sebastian County M. S.
Washington County M. S.
White County M. S.

CALIFORNIA.

M. S. State of California
Alameda County M. S.
California Acad. of Med.
California Northern District M. S.
El Paso M. S.
Fresno County M. S.
Humboldt County M. S.
Kern County M. S.
Lake County M. S.
Los Angeles County M. S.
Marin County M. S.
Medico-Chirurg. M. S.
Monterey County M. S.
Orange County M. S.
Pasedena M. A.
Placer County M. S.
Pomona Valley M. S.
Riverside County M. S.
San Diego County M. S.
Sarcamento S. for Med. Improvement.
San Bernandino County M. A.
San Francisco County M. S.
San Francisco Clin. S.
San Joaquin County M. S.
San Joaquin Valley M. S.
San Louis Obispo and Northern Santa Barbara County M. A.
Santa Barbara County M. S.
Santa Clara County M. S.
Santa Cruz County M. S.
Society of German Physicians of San Francisco
Sonoma County M. S.
Southern California M. S.
Tulare County M. S.
Ventura County M. S.
Yolo County M. S.
Yuba and Sutter Counties M.S.

COLORADO.

Colorado State M. S.
Alumni Ass'n of the Gross M. *College.*
Denver Clin. S.
Denver Clin. and Path. S.
Denver and Arapahoe M. S.
Denver Med. Col. Alumni Association.
El Paso County M. S.
Lake County M. S.
Las Animas County M. S.
Otero County M. S.
Pueblo County M. S.
Weld County M. S.

CONNECTICUT.

Connecticut State M. S.
Bridgeport M. A.
Danbury M. A.
Fairfield County M. A.
Hartford County M. A.
Hartford M. S.
Litchfield County M. A.
Middlesex County M. A.
New Haven M. A.
New Haven County M. A.
New London County M. A.
Norwich M. A.
Stamford M. S.
Tolland County M. A.
Waterbury M. A.
Windham County M. A.

DISTRICT OF COLUMBIA

Med. Ass'n of D. C.

DELAWARE.

Delaware State M. S.

FLORIDA.

Florida State M. S.
Alachua County M. S.
Duval County M. S.
Hillsborough M. S.

GEORGIA.

Georgia State M. A.
Atlanta Soc. of Med.
Macon M. S.

IDAHO.

Idaho State M. S.

ILLINOIS.

Illinois State M. S.
Adams County M. S.
Æsculapian S. of Wabash Valley.
Alton M. S.
Aurora M. S.
Belleville M. S.
Brainard Dist. M. S.
Bond County M. S.
Bureau County M. S.
Cairo M. S.
Capital Dist. M. S.
Central Dist. M. S.
Champaign County M. S.
Chicago Acad. of Med.
Chicago Gynecological S.
Chicago Laryngological Soc.
Chicago M. S.
Chicago Medico-Legal S.
Chicago Neurological S.
Chicago Ophthal. and Otol. S.
Chicago Orthopedic S.
Chicago Pathological S.
Chicago Pediatric Society.
Chicago Physicians' Club.
Chicago Soc. Internal Med.
Chicago Soc. Med. Examiners.
Chicago Therapeutic Society.
Clay County M. S.
Clinton County M. S.
County Hosp. Alumni S.
Crawford County M. S.
Jo. Daviess Co. M. S.
Decatur M. S.
Dewitt County M. S.
Douglas County M. S.
E. St. Louis M. S.
Egyptian M. S.
Fox River Valley M. S.
Fulton County M. S.
Galva Dist. M. S.
Galesburg M. S.
Gallatin County M. S.
Hancock County M. S.
Hardin County M. S.
Iowa and Ill. Cent. Dist. M. S.
Jacksonville Med. Club.
Jefferson Co. M. S.
Jersey County M. S.
Kankakee County M. S.
Lake County M. S.
La Salle County M. S.
Lawrence County M. S.
Macoupin County M. S.
McDonough County M. S.
McHenry Co. M. S.
McLean County M. S.
Med. and Sur. S. of Western Ill.
Military Tract M. A.
Monroe County M. S.
Montgomery Co. M. S.
Morgan County M. S.
Moultrie County M. S.
North Central Illinois M. S.
North Chicago M. S.
Ogle County M. S.
Ottawa City M. S.
Peoria M. S.
Perry County M. S.
Pike Co. M. S.
Pullman Dist. M. S.
Quincy Med. and Lib. Ass'n.
Rock River Valley M. A.

Saline County M. S.
Sangamon County M. S.
Scandanavian M. S. Chicago.
Shelby County M. S.
Southeastern Illinois M. S.
Southern Illinois M. S.
Springfield Med. Club.
St. Clair County M. S.
Stephenson County M. S.
Tri-County M. S.
Twin City Clin. Ass'n of Champaign and Urbana.
Urbana S. of P. & S.
Vermillion County M. S.
Wabash County M. S.
Warren County M. S.
Western M. and S. S.
White County M. S.
Whiteside County M. S.
Williamson County M. S.
Winnebago County M. S.
Woodford County M. S.
Will County M. S.

INDIANA.

Indiana State M. S.
Allen County M. S.
Bartholomew County M. S.
Benton County M. S.
Blackford County M. S.
Boone County M .S.
Carroll County M. S.
Cass County M. S.
Clark County M. S.
Clay County M. S.
Daviess County M. S.
Dearborn County M. S.
Decatur County M. S.
Dekalb County M. S.
Delaware County M. S.
Dubois County M. S.
Elkhart County M. S.
Fayette County M. S.
Floyd County M. S.
Fountain County M. S.
Franklin County M. S.
Gibson County M. S.
Grant County M. S.
Greene County M. S.
Hamilton County M. S.
Hancock County M. S.
Hendricks County M. S.
Henry County M. S.
Howard County M. S.
Huntington County M. S.
Jackson County M. S.
Jay County M. S.
Jefferson County M. S.
Jennings County M. S.
Johnson County M. S.
Knox County M. S.
Kosciusko County M. S.
Lagrange County M. S.
Lake County M. S.
Laporte County M. S.
Lawrence County M. S.
Madison County M. S.
Marion County M. S.
Marshall County M. S.
Martin County M. S.
Miami County M. S.
Monroe County M. S.
Montgomery County M. S.
Morgan County M. S.
Newton County M. S.
Noble County M. S.
Orange County M. S.
Owen County M. S.
Parke County M. S.
Perry County M. S.
Pike County M. S.
Porter County M. S.
Posey County M. S.
Putnam County M. S.
Rush County M. S.
Randolph County M. S.
Ripley County M. S.
Shelby County M. S.
St. Joseph County M. S.
Steuben County M. S.
Sullivan County M. S.
Switzerland County M. S.
Tippecanoe County M. S.
Tipton County M. S.
Vanderburg County M. S.
Vigo County M. S.
Wabash County M. S.
Warrick County M. S.
Washington County M. S.
Wayne County M. J.
Wells County M. S.
White County M. S.
Whitley County M. S.

INDIAN TERRITORY.

Territorial Ass'n.

IOWA.

Iowa State M. S.
Austin Flint M. S.
Blackhawk County M. S.
Boone Valley M. S.
Botna Valley M. S.
Buchanan County M. S.
Buena Vista Co. M. S.
Cedar Rapids M. S.
Cedar Valley M. S.
Central District M. S.
Cherokee County M. S.
Clark County M. S.
Clinton County M. S.
Council Bluffs M. S.
Dallas County M. S.
Decatur Co. M. S.
Delaware County M. S.
Des Moines County M. S.
Des Moines Valley M. S.
Dubuque M. S.
Eastern Iowa M. S.
Fayette County M. S.
Fort Dodge M. S.
Fremont County M. S.
Gate City M. S.
Guthrie District M. S.
Hummiston & Shenandoah M.S.
Iowa Central M. S.
Iowa Union M. S.
Iowa and Illinois M. S.
Jasper County M. S.
Jefferson County M. S.
Johnson County M. S.
Julien M. S.
Julien Med. & Surg. Ass'n.
Keokuk County M. S.
Keokuk M. S.
Lyon County M. S.
Marion County M. S.
Missouri Valley M. S.
Mitchell County M. S.
Muscatine M. S.
North Iowa M. S.
Northwestern M. A.
Plymouth County M. S.
Pocahontas District M. S.
Polk County M. S.
Ringgold County M. S.
Scott County M. S.
Sioux City M. S.
Sioux Valley M. S.
Southeastern Iowa M. S.
Southwestern Iowa M. S.
Spirit Lake Med. Association.
Story County M. S.
Upper Des Moines M. A.
Wapello County M. S.
Wapsie Valley Med. Ass'n.
Warren County M. S.
Washington County M. S.
Winnebago County M. S.
Worth County M. S.

KANSAS.

Kansas State M. S.
Bourbon County M. S.
Golden Belt M. S.
Leavenworth County M. S.
Lyon Co. M. S.
South-East Kansas M. S.
N. W. Kansas M. S.
Shawnee Co. M. S.
Wyandotte M. S.

KENTUCKY.

Kentucky State M. S.
Anderson County M. S.
Bourbon Co. M. S.
Boyle County M. S.
Brashear M. S.
Breckenridge Co. M. S.
Carlisle County M. S.
Carter County M. S.
Central Kentucky M. S.
Clark County M. S.
Fulton County M. S.
Garrard County M. S.
Hardin County M. S.
Henderson County M. S.
Kentucky Valley County M. S.
Lexington and Fayette Counties M. S.
Lincoln County M. S.
Louisville Clinical Society.
Louisville M. S.
Marion County M. S.
Mason County M. S.
Midland District M. S.
Muhlenberg County M. S.
Muldraugh's Hill M. S.
Nelson County M. S.
Northeast Kentucky M. S.
Owensboro M. S.
Paducah M. and S. S.
Pulaski County M. S.
Scott County M. S.
Southeast Kentucky M. S.
Southwestern District M. S.
Union County M. S.

LOUISIANA.

Louisiana State M. S.
Attakapas M. S.
Avoyelles M. S.
Baton Rouge M. S.
Morehouse M. S.
N. Louisiana M. S.
Ouachitta M. S.
Orleans Parish M. S.
Shreveport M. S.
Tensas M. S.
Warren Stone M. S.

MAINE.

Maine State M. S.

MARYLAND.

Maryland Med. and Chir. Faculty (the State Society).
Baltimore Med. & Surg. A.
Clinical Society of Maryland.
Washington County M. S.

MASSACHUSETTS.

Massachusetts M. S.
Barnstable District M. S.
Berkshire District M. S.
Bristol North District M. S.
Bristol South District M. S.
Essex North District M. S.
Essex South District M. S.
Franklin District M. S.
Hampshire District M. S.
Hampden District M. S.
Middlesex South District M. S.
Middlesex East District M. S.
Middlesex North District M. S.
Norfolk District M. S.
Norfolk South District M. S.
Plymouth District M. S.
Suffolk District M. S.
Worcester District M. S.
Worcester North District M. S.

MICHIGAN.

Michigan State M. S.
Bay County M. S.
Berrien County M. S.
Calhoun County M. S.
Cheboygan County M. S.
Detroit Acad. of Med.
Detroit Gynecological Society.
Detroit M. S.
Grand Rapids Acad. of Med.
Grand River Valley M. S.
Kalamazoo Acad. of Med.
Marshall Acad. of Med.
Northeastern District M. S.
Pontiac M. S.
Upper Peninsula M. S.
Washtenaw County M. S.
Wayne County M. S.

MINNESOTA.

Albert Lea District M. S.
Cannon Valley M. S.
Crow River Valley M. S.
Fillmore County M. S.
Minneapolis Med. Club.
Minnesota Acad. of Med.
Minnesota Valley Med. Ass'n.
Hennepin County M. S.
Interurban M. S.
Olmstead County M. S.
Ramsey County M. S.
Southern Minnesota M. S.
South-Western Minn. M. S.
Steele Co. M. S.
St. Louis County M. S.
Wabasha County M. S.
Winona County M. S.

MISSISSIPPI.

Mississippi State M. S.

MISSOURI.

Missouri M. A.
Atchison County M. S.
Andrain Co. M. S.
Boone County M. S.
Buchanan County M. S.
Callaway County M. S.
Carroll County M. S.
Cedar County M. S.
Central Missouri District M. S.
Chariton County M. S.
Clay County M. S.
Dade County M. S.
Franklin County M. S.
Grand River District M. S.
Harrison County M. S.
Henry County M. S.
Hodgin M. A.
Howard County M. S.
Jackson County M. S.
Jasper County M. S.
John McDowell M. A.
Joplin Academy of Medicine.
Kansas City Acad. of Med.
Kansas City District M. S.
Lafayette County M. S.
Linton District M. S.
Lynn County M. A.
Macon County M. S.
Med. Society of the City Hospt. Alumni.
Missouri alley M. S.
Montgomery County M. S.
North Missouri District M. S.
Northeast Mo. Dist. M. S.
Northwest Missouri M. S.
Pettis County M. S.
Pike County M. S.
Putnam County M. S.
Rolla District M. S.
Saline County M. S.
Shelby County M. S.
Southeast Mo. Dist. M. A.
Southwest Mo. Dist. M. S.
Springfield M. S.
St. Louis Acad. of M. & S. Sci.
St. Louis M. S. of Missouri.
St. Charles County M. S.
St. Joseph M. S.

REGISTRATION AT MEETING.

Each delegate or member, when he registers, is requested to record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section officers.

ADDRESSES IN SECTIONS.

The Chairman of each Section shall prepare an address on the recent advances in the branches belonging to his Section, including such suggestions in regard to improvements or methods of work as he may deem important, and present the same to the Section over which he presides on the first day of its annual session. The reading of such address shall not occupy more than twenty minutes.

LENGTH OF PAPERS.

No paper, the reading of which occupies more than twenty minutes, shall be read before any Section.

ORATIONS.

The following annual orations will be delivered: On Medicine, Dr. N. S. Davis, Jr., Chicago; on Surgery, Dr. John A. Wyeth, New York City; on State Medicine, Dr. Geo. M. Kober, Washington, D. C.

Chairman, Committee of Arrangements, Dr. John F. Fulton, St. Paul, Minn.

PROPOSED AMENDMENTS.

Amendment to the Constitution and By-laws, offered by Dr. D. Benjamin, Camden, N. J.: A committee on statistics shall be annually appointed by the president.

Amendment to the Constitution and By-laws, offered by Drs. Guy Hinsdale, Philadelphia, and L. B. Tuckerman, Cleveland, Ohio: RESOLVED, That Article I, Section VIII, of the By-laws, be changed, so that the Nominating Committee shall include a delegate to be elected by each one of the component Sections.

OFFICERS OF SECTIONS, 1900-1901.

Practice of Medicine—Chairman, J. M. Anders, Philadelphia; Secretary, Wm. Britt Burns, Memphis, Tenn.

Obstetrics and Diseases of Women—Chairman, Henry P. Newman, Chicago; Secretary, C. L. Bonifield, Cincinnati, Ohio.

Surgery and Anatomy—Chairman, A. J. Ochsner, Chicago; Secretary, Martin B. Tinker, Johns Hopkins Hospital, Baltimore, Md.

Hygiene and Sanitary Science—Chairman, Ernest Wende, Buffalo, N. Y.; Secretary, J. N. Hurty, Indianapolis, Ind.

Ophthalmology—Chairman, J. A. Lippincott, Pittsburg, Pa.; Secretary, E. C. Ellett, Memphis, Tenn.

Diseases of Children—Chairman, Samuel W. Kelley, Cleveland, Ohio; Secretary, Wm. E. Darnall, Atlantic City, N. J.

Stomatology—Chairman, R. R. Andrews, Cambridge, Mass.; Secretary, Eugene S. Talbot, Chicago.

Nervous and Mental Diseases—Chairman, H. A. Tomlinson, St. Peter, Minn.; Secretary, F. Savary Pearce, Philadelphia.

Cutaneous Medicine and Surgery—Chairman, W. L. Baum, Chicago; Secretary, R. R. Campbell, Chicago.

Laryngology and Otology—Chairman, John N. Mackenzie, Baltimore; Secretary, George C. Stout, Philadelphia.

Materia Medica, Pharmacy and Therapeutics—Chairman, N. S. Davis, Jr., Chicago: Secretary, J. N. Upshur, Richmond, Va.

Physiology and Dietetics—Chairman, Elmer Lee, New York City; Secretary, R. Harvey Cook, Oxford, Ohio.

Pathology and Bacteriology—Chairman, Ludvig Hektoen, Chicago; Secretary, Frank B. Wynn, Indianapolis, Ind.

Medical Societies Entitled to Representation in the American Medical Association

April 1, 1901.

In accordance with the Constitution, this list is prepared as certified by the secretaries of the State and Territorial medical societies.

ALABAMA.

Alabama State M S., and all County Societies.

ARIZONA.

Arizona M. A.
Maricopa County M. S.
Pima County M. S.
Yarapai County M. S.

ARKANSAS.

Arkansas State M. S.
Baxter County M. S.
Benton County M. S.
Boone County M. S.
Craighead County M. S.
Crawford County M. S.
Eureka Springs, Carroll County, M. S.
Hempstead County M. S.
Hot Springs M. S.
Independence County M. S.
Jefferson County M. S.
Lee County M. S.
Little Rock M. S.
Phillips County M. S.
Polk County M. S.
Sebastian County M. S.
Washington County M. S.
White County M. S.

CALIFORNIA.

M. S. State of California
Alameda County M. S.
California Acad. of Med.
California Northern District M. S.
El Paso M. S.
Fresno County M. S.
Humboldt County M. S.
Kern County M. S.
Lake County M. S.
Los Angeles County M. S.
Marin County M. S.
Medico-Chirurg. M. S.
Monterey County M. S.
Orange County M. S.
Pasedena M. A.
Placer County M. S.
Pomona Valley M. S.
Riverside County M. S.
San Diego County M. S.
Sarcamento S. for Med. Improvement.
San Bernandino County M. A.
San Francisco County M. S.
San Francisco Clin. S.
San Joaquin County M. S.
San Joaquin Valley M. S.
San Louis Obispo and Northern Santa Barbara County M. A.
Santa Barbara County M. S.
Santa Clara County M. S.
Santa Cruz County M. S.
Society of German Physicians of San Francisco
Sonoma County M. S.
Southern California M. S.
Tulare County M. S.
Ventura County M. S.
Yolo County M. S.
Yuba and Sutter Counties M.S.

COLORADO.

Colorado State M. S.
Alumni Ass'n of the Gross M. College.
Denver Clin. S.
Denver Clin. and Path. S.
Denver and Arapahoe M. S.
Denver Med. Col. Alumni Association.
El Paso County M. S.
Lake County M. S.
Las Animas County M. S.
Otero County M. S.
Pueblo County M. S.
Weld County M. S.

CONNECTICUT.

Connecticut State M. S.
Bridgeport M. A.
Danbury M. A.
Fairfield County M. A.
Hartford County M. A.
Hartford M. S.
Litchfield County M. A.
Middlesex County M. A.
New Haven M. A.
New Haven County M. A.
New London County M. A.
Norwich M. A.
Stamford M. S.
Tolland County M. A.
Waterbury M. A.
Windham County M. A.

DISTRICT OF COLUMBIA

Med. Ass'n of D. C.

DELAWARE.

Delaware State M. S.

FLORIDA.

Florida State M. S.
Alachua County M. S.
Duval County M. S.
Hillsborough M. S.

GEORGIA.

Georgia State M. A.
Atlanta Soc. of Med.
Macon M. S.

IDAHO.

Idaho State M. S.

ILLINOIS.

Illinois State M. S.
Adams County M. S.
Æsculapian S. of Wabash Valley.
Alton M. S.
Aurora M. S.
Belleville M. S.
Brainard Dist. M. S.
Bond County M. S.
Bureau County M. S.
Cairo M. S.
Capital Dist. M. S.
Central Dist. M. S.
Champaign County M. S.
Chicago Acad. of Med.
Chicago Gynecological S.
Chicago Laryngological Soc.
Chicago M. S.
Chicago Medico-Legal S.
Chicago Neurological S.
Chicago Ophthal. and Otol. S.
Chicago Orthopedic S.
Chicago Pathological S.
Chicago Pediatric Society.
Chicago Physicians' Club.
Chicago Soc. Internal Med.
Chicago Soc. Med. Examiners.
Chicago Therapeutic Society.
Clay County M. S.
Clinton County M. S.
County Hosp. Alumni S.
Crawford County M. S.
Jo. Daviess Co. M. S.
Decatur M. S.
Dewitt County M. S.
Douglas County M. S.
E. St. Louis M. S.
Egyptian M. S.
Fox River Valley M. S.
Fulton County M. S.
Galva Dist. M. S.
Galesburg M. S.
Gallatin County M. S.
Hancock County M. S.
Hardin County M. S.
Iowa and Ill. Cent. Dist. M. S.
Jacksonville Med. Club.
Jefferson Co. M. S.
Jersey County M. S.
Kankakee County M. S.
Lake County M. S.
La Salle County M. S.
Lawrence County M. S.
Macoupin County M. S.
McDonough County M. S.
McHenry Co. M. S.
McLean County M. S.
Med. and Sur. S. of Western Ill.
Military Tract M. A.
Monroe County M. S.
Montgomery Co. M. S.
Morgan County M. S.
Moultrie County M. S.
North Central Illinois M. S.
North Chicago M. S.
Ogle County M. S.
Ottawa City M. S.
Peoria M. S.
Perry County M. S.
Pike Co. M. S.
Pullman Dist. M. S.
Quincy Med. and Lib. Ass'n.
Rock River Valley M. A.

Saline County M. S.
Sangamon County M. S.
Scandanavian M. S. Chicago.
Shelby County M. S.
Southeastern Illinois M. S.
Southern Illinois M. S.
Springfield Med. Club.
St. Clair County M. S.
Stephenson County M. S.
Tri-County M. S.
Twin City Clin. Ass'n of Champaign and Urbana.
Urbana S. of P. & S.
Vermillion County M. S.
Wabash County M. S.
Warren County M. S.
Western M. and S. S.
White County M. S.
Whiteside County M. S.
Williamson County M. S.
Winnebago County M. S.
Woodford County M. S.
Will County M. S.

INDIANA.

Indiana State M. S.
Allen County M. S.
Bartholomew County M. S.
Benton County M. S.
Blackford County M. S.
Boone County M. S.
Carroll County M. S.
Cass County M. S.
Clark County M. S.
Clay County M. S.
Daviess County M. S.
Dearborn County M. S.
Decatur County M. S.
Dekalb County M. S.
Delaware County M. S.
Dubois County M. S.
Elkhart County M. S.
Fayette County M. S.
Floyd County M. S.
Fountain County M. S.
Franklin County M. S.
Gibson County M. S.
Grant County M. S.
Greene County M. S.
Hamilton County M. S.
Hancock County M. S.
Hendricks County M. S.
Henry County M. S.
Howard County M. S.
Huntington County M. S.
Jackson County M. S.
Jay County M. S.
Jefferson County M. S.
Jennings County M. S.
Johnson County M. S.
Knox County M. S.
Kosciusko County M. S.
Lagrange County M. S.
Lake County M. S.
Laporte County M. S.
Lawrence County M. S.
Madison County M. S.
Marion County M. S.
Marshall County M. S.
Martin County M. S.
Miami County M. S.
Monroe County M. S.
Montgomery County M. S.
Morgan County M. S.
Newton County M. S.
Noble County M. S.
Orange County M. S.
Owen County M. S.
Parke County M. S.
Perry County M. S.
Pike County M. S.
Porter County M. S.
Posey County M. S.
Putnam County M. S.
Rush County M. S.
Randolph County M. S.
Ripley County M. S.
Shelby County M. S.
St. Joseph County M. S.
Steuben County M. S.
Sullivan County M. S.
Switzerland County M. S.
Tippecanoe County M. S.
Tipton County M. S.
Vanderburg County M. S.
Vigo County M. S.
Wabash County M. S.
Warrick County M. S.
Washington County M. S.
Wayne County M. J.
Wells County M. S.
White County M. S.
Whitley County M. S.

INDIAN TERRITORY.

Territorial Ass'n.

IOWA.

Iowa State M. S.
Austin Flint M. S.
Blackhawk County M. S.
Boone Valley M. S.
Botna Valley M. S.
Buchanan County M. S.
Buena Vista Co. M. S.
Cedar Rapids M. S.
Cedar Valley M. S.
Central District M. S.
Cherokee County M. S.
Clark County M. S.
Clinton County M. S.
Council Bluffs M. S.
Dallas County M. S.
Decatur Co. M. S.
Delaware County M. S.
Des Moines County M. S.
Des Moines Valley M. S.
Dubuque M. S.
Eastern Iowa M. S.
Fayette County M. S.
Fort Dodge M. S.
Fremont County M. S.
Gate City M. S.
Guthrie District M. S.
Hummiston & Shenandoah M.S.
Iowa Central M. S.
Iowa Union M. S.
Iowa and Illinois M. S.
Jasper County M. S.
Jefferson County M. S.
Johnson County M. S.
Julien M. S.
Julien Med. & Surg. Ass'n.
Keokuk County M. S.
Keokuk M. S.
Lyon County M. S.
Marion County M. S.
Missouri Valley M. S.
Mitchell County M. S.
Muscatine M. S.
North Iowa M. S.
Northwestern M. A.
Plymouth County M. S.
Pocahontas District M. S.
Polk County M. S.
Ringgold County M. S.
Scott County M. S.
Sioux City M. S.
Sioux Valley M. S.
Southeastern Iowa M. S.
Southwestern Iowa M. S.
Spirit Lake Med. Association.
Story County M. S.
Upper Des Moines M. A.
Wapello County M. S.
Wapsie Valley Med. Ass'n.
Warren County M. S.
Washington County M. S.
Winnebago County M. S.
Worth County M. S.

KANSAS.

Kansas State M. S.
Bourbon County M. S.
Golden Belt M. S.
Leavenworth County M. S.
Lyon Co. M. S.
South-East Kansas M. S.
N. W. Kansas M. S.
Shawnee Co. M. S.
Wyandotte M. S.

KENTUCKY.

Kentucky State M. S.
Anderson County M. S.
Bourbon Co. M. S.
Boyle County M. S.
Brashear M. S.
Breckenridge Co. M. S.
Carlisle County M. S.
Carter County M. S.
Central Kentucky M. S.
Clark County M. S.
Fulton County M. S.
Garrard County M. S.
Hardin County M. S.
Henderson County M. S.
Kentucky Valley County M. S.
Lexington and Fayette Counties M. S.
Lincoln County M. S.
Louisville Clinical Society.
Louisville M. S.
Marion County M. S.
Mason County M. S.
Midland District M. S.
Muhlenberg County M. S.
Muldraugh's Hill M. S.
Nelson County M. S.
Northeast Kentucky M. S.
Owensboro M. S.
Paducah M. and S. S.
Pulaski County M. S.
Scott County M. S.
Southeast Kentucky M. S.
Southwestern District M. S.
Union County M. S.

LOUISIANA.

Louisiana State M. S.
Attakapas M. S.
Avoyelles M. S.
Baton Rouge M. S.
Morehouse M. S.
N. Louisiana M. S.
Ouachitta M. S.
Orleans Parish M. S.
Shreveport M. S.
Tensas M. S.
Warren Stone M. S.

MAINE.

Maine State M. S.

MARYLAND.

Maryland Med. and Chir. Faculty (the State Society).
Baltimore Med. & Surg. A.
Clinical Society of Maryland.
Washington County M. S.

MASSACHUSETTS.

Massachusetts M. S.
Barnstable District M. S.
Berkshire District M. S.
Bristol North District M. S.
Bristol South District M. S.
Essex North District M. S.
Essex South District M. S.
Franklin District M. S.
Hampshire District M. S.
Hampden District M. S.
Middlesex South District M. S.
Middlesex East District M. S.
Middlesex North District M. S.
Norfolk District M. S.
Norfolk South District M. S.
Plymouth District M. S.
Suffolk District M. S.
Worcester District M. S.
Worcester North District M. S.

MICHIGAN.

Michigan State M. S.
Bay County M. S.
Berrien County M. S.
Calhoun County M. S.
Cheboygan County M. S.
Detroit Acad. of Med.
Detroit Gynecological Society.
Detroit M. S.
Grand Rapids Acad. of Med.
Grand River Valley M. S.
Kalamazoo Acad. of Med.
Marshall Acad. of Med.
Northeastern District M. S.
Pontiac M. S.
Upper Peninsula M. S.
Washtenaw County M. S.
Wayne County M. S.

MINNESOTA.

Albert Lea District M. S.
Cannon Valley M. S.
Crow River Valley M. S.
Fillmore County M. S.
Minneapolis Med. Club.
Minnesota Acad. of Med.
Minnesota Valley Med. Ass'n.
Hennepin County M. S.
Interurban M. S.
Olmstead County M. S.
Ramsey County M. S.
Southern Minnesota M. S.
South-Western Minn. M. S.
Steele Co. M. S.
St. Louis County M. S.
Wabasha County M. S.
Winona County M. S.

MISSISSIPPI.

Mississippi State M. S.

MISSOURI.

Missouri M. A.
Atchison County M. S.
Andrain Co. M. S.
Boone County M. S.
Buchanan County M. S.
Callaway County M. S.
Carroll County M. S.
Cedar County M. S.
Central Missouri District M. S.
Chariton County M. S.
Clay County M. S.
Dade County M. S.
Franklin County M. S.
Grand River District M. S.
Harrison County M. S.
Henry County M. S.
Hodgin M. A.
Howard County M. S.
Jackson County M. S.
Jasper County M. S.
John McDowell M. A.
Joplin Academy of Medicine.
Kansas City Acad. of Med.
Kansas City District M. S.
Lafayette County M. S.
Linton District M. S.
Lynn County M. A.
Macon County M. S.
Med. Society of the City Hospt. Alumni.
Missouri alley M. S.
Montgomery County M. S.
North Missouri District M. S.
Northeast Mo. Dist. M. S.
Northwest Missouri M. S.
Pettis County M. S.
Pike County M. S.
Putnum County M. S.
Rolla District M. S.
Saline County M. S.
Shelby County M. S.
Southeast Mo. Dist. M. A.
Southwest Mo. Dist. M. S.
Springfield M. S.
St. Louis Acad. of M. & S. Sci.
St. Louis M. S. of Missouri.
St. Charles County M. S.
St. Joseph M. S.

MONTANA.

Montana M. S.
Park County M. S.
Silver Bow County M. S.

NEBRASKA.

Nebraska State M. S.
Elkhorn Valley M. S.
Lincoln M. S.
Loup Valley District M. S.
Omaha M. S.
Otoe County M. S.
Southeastern Neb. M. S.
York County M. S.

NEVADA.

Nevada State M. S.

NEW HAMPSHIRE.

New Hampshire State M. S.
Carroll District M. S.
Central District M. S.
Cheshire County M. S.
Conn. River Valley M. S.
Manchester M. A.
Nashua M. A.
Rockingham District M. S.
Strafford District M. S.
White Mountain M. S.
White River District M. S.

NEW JERSEY.

New Jersey State M. S.
Atlantic County M. S.
Bergen County M. S.
Burlington County M. S.
Camden County M. S.
Cape May County M. S.
Cumberland County M. S.
Essex County M. S.
Gloucester County M. S.
Hudson County M. S.
Hunterdon County M. S.
Mercer County M. S.
Middlesex County M. S.
Monmouth County M. S.
Morris County M. S.
Passaic County M. S.
Salem County M. S.
Somerset County M. S.
Sussex County M. S.
Union County M. S.
Warren County M. S.

NEW MEXICO.

New Mexico M. S.
Bernalillo County M. S.

NEW YORK.

New York State M. A.
Chautauqua County M. A.
Cortland County M. A.
Erie County M. A.
Genesee County M. A.
Kings County M. A.
New York County M. A.
Oneida County M. A.
Orange County M. A.
Rensselaer County M. A.
Saratoga County M. A.
Sullivan County M. A.
Warren County M. A.
Westchester County M. A.
Wyoming County M. A.

NORTH CAROLINA.

North Carolina State M. S.
Buncombe County M. S.
Charlotte M. S.
Raleigh Acad. of Med.
Rowan County M. S.

NORTH DAKOTA.

North Dakota State M. S.

OHIO.

Ohio State M. S.
Adams County M. S.
Allen County M. S.
Ashland County M. S.
Ashtabula County M. S.
Belmont County M. S.
Brown County M. S.
Butler County M. S.
Central Ohio M. S.
Champaign County M. S.
Cincinnati Acad. of Med.
Clarke County M. S.
Clermont County M. S.
Cleveland M. S.
Clinton County M. S.
Columbus Acad. of Med.
Cuyahoga County M. S.
Darke County M. S.
Defiance County M. S.
Delaware County M. S.
Eastern Ohio M. S.
East Liverpool M. S.
Erie County M. S.
Gallia County M. S.
Greene County M. S.
Hancock County M. S.
Hempstead Mem. Acad.
Highland County M. S.
Holmes County M. S.
Jackson County M. S.
Jefferson County M. S.
Lorain County M. S.
Lucas County M. S.
Mahoning County M. S.
Mansfield Acad. of Med.
Marion County M. S.
Meiggs County M. S.
Miami County M. S.
Miami Valley M. S.
Montgomery County M. S.
Morrow County M. S.
Muskingum County M. S.
North Central Ohio M. S.
Northwestern Ohio M. A.
Perry County M. S.
Pike County M. S.
Portage County M. S.
Ross County M. S.
Shelby County M. S.
Springfield Acad. of Med.
Stark County M. S.
Stillwater M. A.
Toledo M. A.
Tuscarawas County M. S.
Union M. A.
Union M. A. of N. E. Ohio.
Warren County M. S.
Washington County M. S.
Wayne County M. S.

OKLAHOMA.

Oklahoma Territorial M. S.

OREGON.

Oregon State M. S.
Portland M. S.
South Oregon M. S.

PENNSYLVANIA.

Pennsylvania State M. S.
Allegheny County M. S.
Armstrong County M. S.
Beaver County M. S.
Bedford County M. S.
Berks County M. S.
Blair County M. S.
Bradford County M. S.
Bucks County M. S.
Butler County M. S.
Cambria County M. S
Carbon County M. S.
Centre County M. S.
Chester County M. S.
Clarion County M. S.
Clearfield County M. S.
Clinton County M. S.
Columbia County M. S.
Crawford County M. S.
Cumberland County M. S.
Dauphin County M. S.
Delaware County M. S.
Elk County M. S.
Erie County M. S.
Fayette County M. S.
Franklin County M. S.
Greene County M. S.
Huntington County M. S.
Indiana County M. S.
Jefferson County M. S.
Juniata County M. S.
Lackawanna County M. S.
Lancaster County M. S.
Lawrence County M. S.
Lebanon County M. S.
Lehigh County M. S.
Luzerne County M. S.
Lycoming County M. S.
McKean County M. S.
Mercer County M. S.
Mifflin County M. S.
Montour County M. S.
Montgomery County M. S.
Northampton County M. S.
Perry County M. S.
Potter County M. S.
Philadelphia County M. S.
Schuylkill County M. S.
Somerset County M. S.
Susquehanna County M. S.
Tioga County M. S.
Venango County M. S.
Warren County M. S.
Washington County M. S.
Westmoreland County M. S.
York County M. S.

RHODE ISLAND.

Rhode Island State M. S.

SOUTH CAROLINA.

South Carolina State M. S.
Columbia M. S.
Anderson County M. S.
Greenville County M. S.
Laurens County M. S.
Kershaw County M. A.
Med. Soc. of S. Carolina.
Sumter County M. S.
Union County M. S.

SOUTH DAKOTA.

South Dakota State M. S.
Aberdeen District M. S.
Minnehaha M. S.
Sioux Valley M. S.

TENNESSEE.

Tennessee State M. S.
Bradley County M. S.
Bristol M. S.
Chattanooga M. S.
Dyer County M. S.
Gibson County M. S.
Johnson City M. S.
Knox County M. S.
Madison County M. S.
Marshall County M. S.
Memphis M. S.
Middle Tennessee M. S.
Montgomery County M. S.
Nashville Academy of Med.
Rutherford County M. S.
Sumner County M. S.
Tipton County M. S.
West Tenn. M. & S. Ass'n.

TEXAS.

Austin Academy of Medicine.
Austin District M. S.
Brazos Valley M. A.
Brenham M. S.
Bell County P. & S. Ass'n.
Briggs M. S., Ellis County.
Central Texas M. A.
Corsicana District M. A.
Dallas Med. & Surg. Society.
E. Texas Medico-Chirurgical S.
El Paso County M. S.
Hill County M. & S. Ass'n.
Houston District M. A.
Johnson County M. S.
Kaufman County M. S.
North Texas M. A.
Pan Handle M. A.
Practitioners' Soc. of Dallas.
South Texas M. A.
Waco M. A.
Western Texas M. A.

UTAH.

Utah State M. S.
Salt Lake County M. S.
Utah County M. S.
Salt Lake Acad. Med.
Weber County M. S.
Weber County Acad. of Med.

VERMONT.

Vermont State M. S.

VIRGINIA.

Virginia State M. S.

WASHINGTON.

Washington State M. S.
Kings County M. S.
Pierce County M. S.
Spokane County M. S.
Thurston County M. S.
Whitman County M. S.
Yakima County M. S.

WEST VIRGINIA.

West Virginia State M. S.
Charleston M. and S.
Harrison County M. S.
Huntington M. A.
McDowell County M. S.
Ohio County M. S.

WISCONSIN.

Wisconsin State M. S.
Ashland County M. S.
Barron County M. S.
Brainerd M. S.
Brown County M. S.
Central Wisconsin M. S.
Douglas County M. S.
Fox River Valley M. S.
Inter-County M. S.
La Crosse County M. S.
Manitowoc M. S.
Milwaukee M. S.
Northwestern Wis. M. A.
Sheboygan County M. S.
Waukesha County M. S.
Vernon County M. S.

WYOMING.

Wyoming State M. S.
Medical Ass'n of Hawaii.

Any society omitted should send to the office of the Secretary notice to that effect *accompanied by a certificate from the secretary of the State society that said society is so recognized in accordance with the above quoted law relating to representation.*

Secretaries of affiliated societies are earnestly requested to forward lists of their delegates to the American Medical Association as early as possible after appointment.

In order that the Secretary may be enabled to erase from the roll the names of those who have forfeited their membership, *the secretaries are, by special resolution, requested to send to* him, annually a corrected list of the membership of their respective societies.

George H. Simmons,
Secretary American Medical Association.

61 Market Street, Chicago.

To Commemorate Invention of Ophthalmoscope.

At the last meeting of the ophthalmic Section of the American Medical Association, the undersigned were appointed a committee to arrange exercises, etc., at the coming meeting in St. Paul, to commemorate the fiftieth anniversary of the invention of the ophthalmoscope. The Committee is preparing an historical exhibit of ophthalmoscopes and is endeavoring to secure such older models as they can borrow. Due credit will be given.—Harry Friedenwald, M.D., 1029 Madison avenue, Baltimore; Casey A. Wood, M.D., Chicago.

New Members.

New members for the month of March, 1901:

ALABAMA.

Davie, Judson, Cowikee P. O., Barbour Co.

CALIFORNIA.

Payne, Redmond Wellington, San Francisco.
Libby, Arthur A., Pasadena.
Roberts, Wm. Humes, Pasadena.

CONNECTICUT.

Roberts, Edw. K., New Haven.

DELAWARE.

Stubbs, Ralph P., Wilmington.

DISTRICT OF COLUMBIA.

Roman, F. O., Washington.

ILLINOIS.

Wells, Clarence A., Quincy.
Johnston, J. Alba, Byron.
Byrne, John H., Chicago.
Coakley, Walter Byron, Chicago.
Mix, Charles Louis, Chicago.
Saurenhaus, Ernest, Chicago.
Young, Alben, Chicago.
Peterson, Herman D., Chicago.
Lord, Frank H., Plano.
Beard, Leslie A., Polo.
Shreck, J. A., Cameron.
Crocker, Fletcher L., Weston.
Gillett, Philip F., Stillman Valley.
Maley, Wm. H., Galesburg.
Stephens, Robt. F., Toledo.
Johnson, Chas. B., Champaign.
Massie, John G., Belleville.
Fulgham, J. H., Lebanon.
Shaw, Viola E., Pekin.
Bridges, W. T., Stonington.

INDIANA.

McKee, Wm. Edwin, Goldsmith.

IOWA.

Davis, S. K., Libertyville.
York, N. Albert, Lisbon.
Daly, Jas. Jos., Charles City.
Grossman, D. S., Minburn.

KANSAS.

Allen, Arthur E., Utica.
Latta, John Milton, Millerton.
Welch, Wm. E., Pittsburg.

KENTUCKY.

Crouch, Hugh T., Cunningham.

LOUISIANA.

Lancaster, Nathan A., King, Madison Parish.
Owen, Whyte Glendower, White Castle.
Forman, Alfred Hennen, New Orleans.

MASSACHUSETTS.

Murphy, Jos. B., Taunton.
Thomas, Caroline L., Fall River.
Prior, Chas. E., Malden.
Trueman, H. S., Somerville.

MARYLAND.

Dorsey, Reuben M., Baltimore.
Russell, Wm. Wood, Baltimore.

MICHIGAN.

Stewart, Oliver, Port Huron.
Brown, G. Van Amber, McBain.
Hutchings, Willard Hunter, Ann Arbor.
Patterson, P. D., Charlotte.

MINNESOTA.

Wright, C. O., Luverne.
Steel, Edwin D., Mankato.
Williams, Cornelius, St. Paul.
Johnson, J. Palmer, Owatonna.
Hubert, R. I., St. Cloud.
Peterson, John Richard, Renville.
Heath, Albert C., St. Paul.
Dennis, Warren A., St. Paul.
Clark, Thos. C., Stillwater.
Gilfillan, Jas. S., St. Paul.
Milligan, W. F., Wabasha.
Frazer, Wm. A., Lyle.
Markoe, Jas. C., St. Paul.
Cross, J. G., Rochester.
Merrill, B. J., Stillwater.

MISSOURI.

Hempelmann, Louis H., St. Louis.
Banks, H. L., Hannibal.
Vessells, F. M., Brewer.
Bridges, J. B., Downing.
Rice, F. D., Lucerne.
Clark, Jos. Johnson, St. Louis.

NEW HAMPSHIRE.

Nute, W. H., Exeter.

NEW YORK.

Hirons, Gardner, New York City.
Hazeltine, Laban, Jamestown.
Greeley, Jane Lincoln, Jamestown.
Stranahan, J. Orley, Rome.
Edwards, John, Gloversville.
Earl, Wm. Petry, Little Falls.
Douglass, J. W., Boonville.
Munger, Chas., Knoxboro.
Douglass, Edgar H., Little Falls.
Steers, Wm. H., Brooklyn.
Disbrow, Robt. N., New York City.
Burgheim, Leo., New York City.
Burgess, Maynard G., Herkimer.
Clark, Jos., New York City.
Harding, Wm. L., New York City.
Leuchs, John, New York City.

NORTH DAKOTA.

Furness, Gilbert Bird, Mandan.
Critchfield, H. H., Hunter.

OHIO.

Hall, Emerson V., Convoy.
Glass, Geo. F., Cleveland.
Wirebaugh, I. V., Prairie Depot.

OKLAHOMA.

Buxton, L. Haynes, Oklahoma City.

PENNSYLVANIA.

Roe, J. I., Wilkesbarre.
Thompson, Mary Irvin, Altoona.
Matlack, Granville T., Wilkesbarre.
Harrison, Wm. H., Easton.
Sprowls, Jesse Addison, Clarksville.
Matthews, W. Edgar, Johnstown.

SOUTH CAROLINA.

Ferguson, Richard, Columbia.
Whaley, E. Mikell, Columbia.

SOUTH DAKOTA.

Carleton, J. W., Sisseton.

TENNESSEE.

Raymond, Frank S., Memphis.
Capps, Claudius Mead, Knoxville.
Fort, Rufus E., Nashville.

TEXAS.

Frick, Wm. G., Elk.
Rush, Richard Henry, DeLean.
Irby, Alfred, Weatherford.
Kennedy, John Wesley, Lewisville.
Crook, Lee F., Cresson.

WEST VIRGINIA.

Caldwell, Jos. R., West Liberty.

VIRGINIA.

Corss, Jas. Kennedy, Newport News.

WISCONSIN.

Shearer, Robt. D., Milwaukee.
Fox, Geo. Wm., Milwaukee.
Kleinhans, Francis A., Milwaukee.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Antisepsis of the Nasopharynx.

The *Presse Médicale*, quoted in *N. Y. Med. Jour.* for April 6, attributes the following prescriptions to M. Malherbe. They are to be used as anterior douches or by atomization:

Resolvent and antiseptic:

℞.	Sodium salicylate	22½ gr.		86
	Distilled water	4500 m.	292	
M.				

Resolvent, antiseptic, and astringent:

℞.	Zinc sulphate	4½ gr.		29
	Distilled water	4500 m.	292	
M.				

When there is much pain:

℞.	Morphin. hydrochlorid..............	¾ gr.		048
	Distilled water	1250 m.	81	
M.				

At the same time inhalations are prescribed:

℞.	Compound tincture of benzoin....	1350 gr.	87	75
	Chloroform.......................	25 drops	1	62
M.	A coffeespoonful in a pint of boiling water.			

Treatment of Uremic Coma.

A subscriber writes asking us for a "good plan of treatment in uremic coma."

Ans.—As this condition is due to poisonous substance in the blood the important point to observe in the treatment is to promote elimination. And as the kidneys are crippled we must look to increased action of the bowels and skin as the two other great emunctories through which rapid elimination can be carried on. Consequently diaphoresis and catharsis must be increased. The action of the skin must be increased by means of the hot pack, hot air or vapor baths. In general practice the hot pack is most suitable and most conveniently employed. Place the patient on a couch or bed protected by a rubber sheet after having removed all the clothing. Place blankets in hot water, 110 F., wring them out and wrap one around each limb and one around the body, and over these place a dry blanket and allow the patient to remain at least one hour. During this procedure an ice cap should be placed to the head to prevent cerebral congestion. Injection hypodermically of the normal salt solution into the cellular tissue is of great aid to elimination, as well as to the overworked heart. A pint or even two pints may be slowly injected at one time, and if it is not convenient to administer it hypodermically, large amounts can be slowly injected per rectum.

To meet the second indication, namely elimination by the bowels, free catharsis is most rapidly produced by the use of croton oil; this can be given in one or two minim doses either dropped upon the base of the tongue or administered in a teaspoonful of olive oil. Elaterium in ¼-grain doses administered, as Hirst states, in a little butter with which it is well mixed; or elaterin, its active principle, may be substituted, administered in 1/15 to 1/10 grain doses every hour for three hours will usually produce efficient purging necessary in these cases. The number of doses should not necessarily be limited to three, but should be administered until the desired results are obtained. To give it at longer intervals and in too small doses is of no use, as it does not produce the catharsis desired. H. B. Favill, of Chicago, states there may be physicians who object to such large doses on account of its depressing and exhausting effects, yet a patient who is weakened to the point of being harmed is beyond help anyway. Experience has demonstrated that its value is not mechanical alone but rapidly relieves the toxic condition of the blood as well as the symptoms which the toxicity produces as shown upon the heart and respiration.

Pilocarpin, to produce diaphoresis, is an inappropriate remedy on account of its marked depressant effects upon the heart. Its use in puerperal eclampsia has no doubt increased the mortality; especially is it non-indicated in the uremia of Bright's disease, for under such conditions the heart muscle is necessarily more or less affected and its cavities dilated.

For the Heart and Circulation.

Where there is such work thrown upon the heart by congestion of the pulmonary circuit, or when the heart begins to succumb to the poisonous effect of the toxins it can be relieved by venesection—which can not as often be resorted to as it should be under such circumstances—and phlebotomy should be done as a preventive measure before marked pulmonary edema comes on. It is frequently the case that nitroglycerin will be a good substitute for venesection, as the principal action of the nitrites is to dilate the peripheral blood vessels, and in that way they greatly reduce the amount of work thrown upon the heart. Too many practitioners have an erroneous idea of the physiological action of the nitrites. They administer them for the purpose of stimulating the heart, at the same time not knowing in what way it stimulates the heart, the action of which is indirect by relieving its load. Alternating with the nitroglycerin, digitalis may be given, if the pulse is feeble, in moderate sized doses providing there is no fatty degeneration of that organ present. The most frequent mistake in the administration of digitalis is in giving it in too large doses. Caffein in uremia makes an excellent heart tonic as well as a diuretic. It can be given hypodermically.

Treatment of Diphtheria.

J. Weichselbaum, in *Merck's Archives*, recommends the use of hydrargyri biniodidum in treatment of diphtheria. He begins by administering a mercurial purgative. He then gives the following preparation internally:

℞.	Hydrarg. iodidi rubri	gr. i		06
	Potassii iodidi	gr. iv		25
	Aquæ	ʒi	4	

Dissolve and add:

	Syr. acidi hydrioid q. s. ad	℥iv	128	

M. Sig.: Five to ten drops on the tongue every twenty minutes, day and night.

For use in the atomizer as a local application to the fauces:

℞.	Hydrogeni peroxidi	℥i	32	
	Aquæ	℥iii	96	

M. Sig.: As a spray locally every hour or two. If the patient is old enough let him gargle every hour during day and night.

And internally:

℞.	Quininæ sulphatis	gr. xlviii	3	20
	Ext. glycyrrhizæ flu.	℥i	32	
	Aq. cinnamomi q. s. ad	℥iv	128	

M. Sig.: Shake and take a teaspoonful every two hours during day and night.

Treatment of Vaginitis.

℞.	Resorcin	gr. lxxx	5	
	Acidi salicylici	gr. viii		5
	Beta naphthol	gr. i		06
	Aquæ q. s. ad	℥viii	256	

M. Sig.: Add one tablespoonful to a quart of warm water and use as a douche.

After the administration of the douche insert a tampon saturated with the following solution:

℞.	Salol	gr. xlv-ʒii	3-8	
	Glycerini (neutral)	℥viii	256	

And insert a vaginal suppository containing the following:

℞.	Acetanilidi	gr. xv	1	
	Acidi tannici	gr. viii		5
	Ext. hyoscyami	gr. iv		25
	Sacch. lactis	ʒvi	24	

M. *Ft. Suppos., No. i. Sig.:* Insert into the vagina.—*Med. News.*

The mucous membrane of the vagina is a good absorbent and it seems that the amount of acetanilid and hyoscyamus is too large. Good effects should be obtained from one-half the dose given in the above formula.

Treatment of Purulent Endometritis.

Dr. Jay G. Roberts, in *Phil. Med. Jour.*, uses the following emulsion in treatment of purulent endometritis:

℞.	Iodoformi	ʒss	2	
	Amyli	gr. xv	1	

Mix and add:

	Glycerini	ʒv	20	
	Aquæ	ʒiii	12	
	Creolini	gr. v		30

M. Stir gradually and heat slightly. Sig.: Inject one teaspoonful slowly, well up into the uterine cavity. The syringe is withdrawn and the cervix plugged with antiseptic cotton. The patient should retain the dorsal position for a few minutes. The injection should be repeated every other day or every third day.

For Painful Dentition.

The *Med. Chir. Centralblatt* contains the following prescription for local application in painful dentition:

℞.	Acidi citrici	gr. i		06
	Aq. destil. q. s. to dissolve			
	Cocainæ hydrochlor	gr. iss		09
	Tinct. vanillæ	m. x		66
	Syrupi simplicis	ʒv	20	

M. Sig.: To be rubbed on the gums.

Bleeding and Tender Gums.

℞.	Gelatin	ʒss	2	
	Sodii chloridi	gr. viii		5
	Acidi carbol	gr. ii		12
	Eucainæ B hydrochlor	gr. viii		5
	Cocainæ hydrochlor	gr. ii		12
	Aq. destil	℥iiiss	112	

M. Sig.: Use as a mouth wash once or twice daily.

Treatment of Anorexia.

Kolb, in *Prog. Medicale*, recommends the following powder containing the bitters quassia and nux vomica:

℞.	Quassin (crys.)	gr. 3/100		0018
	Pulv. nucis vomicæ	gr. 3/10		018
	Pulv. rhei	gr. iiss		15

M. Ft. wafer No. i Sig.: One such powder before each meal.

Treatment of Chronic Eczema and Psoriasis.

℞.	Creolin	ʒss	2	
	Hydrarg. Ammon	gr. x		66
	Petrolati	℥i	32	

M. *Sig.: Apply locally night and morning.*

Local Application for Eczema.

℞.	Pulv. tragacanthæ	gr. xxv	1	66
	Zinci oxidi	ʒii	8	
	Alcoholis	ʒi	4	
	Lanolini	℥i	32	
	Aquæ	℥iv	128	

M. Sig.: Apply locally.—*Western Druggist.*

Treatment of Fatty Heart.

Dr. A. Robin, in *Med. Record*, suggests the following pill in treatment of fatty degeneration of the heart:

℞.	Sodii arsenatis	gr. 1/24		0025
	Potassii iodidi	gr. ¾		05
	Pulv. nucis vom.	gr. ⅛		008
	Pulv. rhei	gr. i		06
	Ext. dulcamaræ	gr. iss		09

M. Ft. pil. No. i. Sig.: One such pill daily.

The extract of dulcamara (bittersweet) is not official and its dose seems to be uncertain.

Treatment of Subacute Rheumatism.

℞.	Sodii salicylatis	℥ss	16	
	Potassii iodidi	ʒi	4	
	Methyl salicylatis	ʒi	4	
	Ext. cimicifugæ flu.	ʒii	8	
	Alcoholis	℥ss	16	
	Aquæ q. s. ad	℥iii	96	

M. Sig.: One teaspoonful three times a day; or:

℞. Sodii salicylatis			
Potassii iodidi,			
Potassii acetatis			
Ext. cascaræ sagradæ			
Glycerini āā	ʒii		8
Aq. cinnamomi	℥ss		16
Aq. menthæ pip	℥iii		96

M. Sig.: One teaspoonful every four hours.—*Med. Standard.*

For the Night Sweats of Tuberculosis or Malaria.

℞. Acidi salicylici	ʒi		4
Acidi borici	ʒi		4
Amyli	ʒiv		16
Pulv. talci	℥iss		48

Misce. Sig.: To be used locally as a dusting powder.

Nasal Neurosis.

Dr. Samuel B. Dabney states that in women having frequent attacks of sneezing both summer and winter and where examination shows no hypertrophy nor permanent obstruction present, but simply a turgescence of the mucous membrane, he uses the following combination:

℞. Acidi arsenosi	gr. i		06
Strych. sulphatis	gr. 2/3		04
Ext. belladonnæ			
Zinci phosphidi āā	gr. iv		25
Ext. gentianæ	gr. xx	1	33

M. Ft. pil. No. xx. Sig.: One pill three times a day.

In conjunction with this he uses a menthol preparation locally.

Sterilizing the Clinical Thermometer.

It is too often the case that the general practitioner does not give the proper attention to sterilizing his thermometer. When he enters a sick room he usually asks for a towel moistened with some water and is satisfied with washing the thermometer in water alone.

Dr. Wm. H. Dyer, in *Phil. Med. Jour.*, suggests that a few drops of formalin —40 per cent. solution of formaldehyde—be placed on some cotton in the bottom of the thermometer case, which affords a very effective method of disinfecting and sterilizing the thermometer. The gas is readily liberated from the solution and the thermometer case being air-tight practically prevents the escape of the gas and the evaporation of the liquid. In this way the thermometer is subjected to the germicidal action of the gas. Before placing it in the patient's mouth it should be rinsed in water and dried, as formaldehyde is irritating to the mucous membranes.

Medicolegal.

Conviction on Testimony of Expert Witnesses.—Where a conviction is had upon the testimony of expert witnesses, if the jury has been properly instructed as to the law, the Supreme Court of Oklahoma says, in Boggs, vs. United States, that, on appeal it will not invade the province of the jury, to determine the weight and credibility of the witnesses or the degree of credence to be given to their testimony. So, if upon an examination of the entire record it is satisfied that there is evidence in the case which reasonably tends to sustain the findings of the jury, the verdict of the latter will not be disturbed.

Manslaughter by Administration of Poison.—The Supreme Court of Indiana says, in the case of Hasenfuss vs. State, that it is possibly true, as insisted by counsel, that it may be difficult to conjecture a case where the crime of manslaughter can be said to be committed by means of administering poison. Nevertheless, it holds valid a verdict of the jury which showed that the jury here discovered such a case notwithstanding the assertion of counsel that none, under any circumstances, could be imagined, or possibly had been controlled, as is sometimes the case, more by the impulses of mercy than by the law and the evidence.

Rules as to Admissibility of Opinions of Experts.—In the case of Easler vs. Southern Railway Company, the Supreme Court of South Carolina, without undertaking to review in detail the different cases in that state upon this subject, thus states the rules that have been followed: 1. A witness is competent to give his opinion as an expert when the facts upon which it is based are within his own knowledge. 2. If the facts upon which his opinion is founded are in issue, his testimony is not admissible, except upon a hypothetical state of facts. 3. If the mode in which an injury was inflicted, or the extent thereof, is itself one of the disputed facts in the case, the witness will not be allowed to testify that in his opinion the injury was inflicted in a certain manner or to a certain extent. In such a case he must testify as to a hypothetical state of facts. The province of the expert is to draw inferences from, but not to decide, the facts of the case; and, in order to draw proper inferences from the facts in the case, they must either be within his own knowledge or undisputed; otherwise, he would usurp the powers of the jury.

Appointment of Examiners by Association.—The Supreme Court of Indiana holds, in Overshiner vs. State, that the general assembly, in conferring upon the State Dental Association power to appoint three members of the State Board of Dental Examiners, did not transcend its constitutional power, and that appointments to said Board of Examiners by said Association are valid. It was contended, for one thing, that the statute must fail for the reason that the legislature had no constitutional warrant for bestowing police powers upon a private corporation, to be by it exercised upon the citizens of the state. But the supreme court says that it perceives no reason why a corporation, such as the one in question, may not prove itself a repository of power as safe and salutary as an individual. This corporation is composed of practicing dentists, organized for the promotion of scientific knowledge and skill in the practice of the profession of dentistry, and which association thus stands in an intimate and well-informed relation to the subject, and possessed of a peculiar interest in the successful administration of the law. It is difficult to conceive of an appointing power with higher qualifications, or likely to be swayed by more laudable motives; and that it is an organization of persons mutually interested in the enforcement and proper administration of the law surely furnishes no reason for its condemnation.

Liability for Unjustifiable Abandonment of Patient.—The Supreme Court of California says that defendant, in the case of Lathrop vs. Flood, was a practicing physician, who was employed to attend a young married woman in her prospective first confinement. At the beginning of her labor, he was sent for and attended. He concluded that the case would be a prolonged one, and went away, visiting the house at intervals. He returned one evening, and, after an examination of his patient, decided that it would be necessary to employ instruments to aid in the delivery of the child, and that the time for the use of such instruments had arrived. He, therefore, ordered the attendant nurse to place the patient in proper position, and inserted the instruments, whereupon the sick woman, in fear, or pain, or both, shrank back, compelling the physician to let go of the instrument or greatly imperil the lives of both mother and child. He made a second effort with like result, and perhaps a third, though that was in controversy. He testified that he warned the woman to be quiet, and explained to her the danger, both to herself and unborn infant, occasioned by her conduct, and finally told her that, if she "did not quit, he would quit." Upon the part of the woman the evidence was that she was suffering excruciating pain, which was increased by the insertion of the instruments; that she screamed, whereupon the doctor said: "You quit your screaming. If you don't quit, I'll quit." Upon the failure of a second or third effort to employ instruments, he abruptly left the house, without a word of explanation or suggestion to any one. This was about midnight. The husband followed him to the street, imploring him to return, and not to leave his wife in that condition, but he refused. After an interval of an hour or more, during which time the patient was left with knowledge that the physician had abandoned her, and without any medical attendance, the presence of another physician was secured. He found her not so far advanced in parturition as to require the use of instruments until some six or eight hours afterwards, when, by their aid, he delivered her of an infant, which lived about eight minutes. It did not appear that the first physician's treatment of the case up to the time of his abandonment of it was either negligent or unskilful, while it was demonstrated that if either the mother or the child suffered from undue physical injuries inflicted by his treatment that the actuating cause was the conduct of the patient in moving and shrinking while the instruments were actually inserted. The jury returned a verdict for $2000 damages, and the supreme court says that it can perceive nothing excessive in that, and nothing to indicate that the jury must have been influenced by passion or prejudice. It says that the law has no scales by which to measure with exactness such mental suffering as the woman endured after the doctor's departure and the reflex effect of such mental suffering upon the physical condition. The jury, for the injuries suffered, was instructed that in fixing compensatory damages it was to take into consideration the physical injury and suffering and the mental suffering and humiliation, if any, caused by the physician's negligent act or breach of contract. It is the undoubted law, the court says, that a physician may elect whether or not he will give his services to a case, but, having accepted his employment, and entered upon the discharge of his duties, he is bound to devote to the patient his best skill and attention, and to abandon the case only under one of two conditions: First, where the contract is terminated by the employer, which termination may be made immediate; second, where it is terminated by the physician, which can only be done after due notice, and an ample opportunity afforded to secure the presence of other medical attendance. Much expert testimony was given by physicians in this case to the effect that the relation of confidence between physician and patient is all-important, and that a physician is justified in abandoning a case where that relationship does not exist. This, the court says, is quite true, but the circumstances of abandonment are equally important. He can never be justified in abandoning it as did this defendant. Such conduct evidences a wanton disregard, not only of professional ethics, but of the terms of his actual contract. It was a violation of that contract, and for all damages that resulted he was justly responsible.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, March 30.

1 *Congenital Dislocation of the Shoulder with Report of Two Cases of Dislocation Posteriorly. (Concluded.) Daniel W. Marston.
2 Pathology of Intrauterine Death. (Continued.) Neil MacPhatter.
3 *Comparative Pathology of the Jews. (To be Concluded.) Maurice Fishberg.
4 Causes and Significance of the Obstetric Hemorrhages. J. Clifton Edgar.
5 *Tropical Dysenteries. Stephen M. Long.
6 A Dressing for Colle's Fracture. Charles L. DeMeritt.
7 A Requisite to Increase the Usefulness of Ambulances. Frederic Griffith.

Boston Medical and Surgical Journal, March 28.

8 *The Embryologic Basis of Pathology. Charles Sedgwick Minot.
9 *New Method for Treating Fractures. Leonard F. Hatch.
10 Mumps in Pneumonia; Boroglyceride. Charles W. Dulles.
11 Brief Summary of Nine Cases of Lobar Pneumonia Treated by Ice Pack. George L. Collins.

Philadelphia Medical Journal, March 30.

12 *Atmokausis: Its Value in the Treatment of Severe and Uncontrollable Uterine Bleedings (Uterine Arteriosclerosis). Samuel W. Bandler.
13 *Coexistence of Carcinoma and Fibroma in the Corpus Uteri. W. A. Newman Dorland.
14 *Shock in Abdominal Operations. Fenton B. Turck.
15 *Practical Modification of the Phenylhydrazin Test for Glycosuria. Robert N. Willson.
16 *How to Prevent Stammering. G. Hudson Makuen.
17 Bell's Palsy Associated with Complete Anesthesia in the Territory of the Fifth Nerve. James Hendric Lloyd.

Medical Record (N. Y.), March 30.

18 *Some Fallacies of Therapeutics. George L. Peabody.
19 *Ionization in its Physiological and Pathological Relations. Martin H. Fischer.
20 Creosote in Pneumonia: A Résumé. I. L. Van Zant.
21 Orchid Culture in its Relation to a New Improved, and Completely Effective Method of Disinfection. J. M. W. Kitchen.

St. Louis Medical Review, March 23.

22 *Veratrum Viride; its Undeserved Neglect. E. W. Saunders.

March 30.

23 Report of Fatal Heart Complication of a Case of Acute Articular Rheumatism in a Child. Hudson Talbott.
24 Emergency Hospital at the Pan-American. Herbert Shearer.

Medical News (N. Y.), March 30.

25 Report of the Committee of the Medical Board of Bellevue Hospital, Appointed January 2, 1901, to Investigate and Report upon Questions Relating to the General Administration of the Hospital.
26 *Vaccination, Clinically Considered. Frank S. Fielder.
27 The Method of Preparation of Vaccin Virus in the Vaccin Laboratory of the New York City Health Department. J. H. Huddleston.

Cincinnati Lancet-Clinic, March 30.

28 Valedictory Address at Fort Wayne College of Medicine. H. V. Sweringen.
29 Valedictory Address at Academy of Medicine of Cincinnati. Chas. L. Bonifield.
30 Appendicitis. John A. Grafft.
31 Oxygen Gas in Opium Poisoning. W. P. Orr.

Pediatrics (N. Y.), March 15.

32 *Diphtheria and its Treatment. Charles C. Gidney.
33 *Mixed Feeding of Infants. John Zahorsky.
34 Bullet in the Foot Located by the X-Ray Operation—Subluxation of the Knee. James M. Holloway.
35 *Treatment of Burns in Infancy and Childhood. Charles Warrenne Allen.

American Practitioner and News (Louisville, Ky.), March 1.

36 Tumors of Testicle. John R. Wathen.
37 Fracture of the Neck of the Femur. Irvin Abell.
38 Correction of Deviations of the Cartilaginous Nasal Septum. Thomas C. Evans.

Northwestern Lancet (Minneapolis, Minn.), March 15.

39 *A New Treatment for Tuberculosis. O. A. Fliesburg.
40 *The Influence of Sex and of Certain Physiologic and Pathologic Changes of the Sexual Organs upon the Eye. Howard McI. Morton.
41 *Two Cases of Poisoning by Potassium Iodid. Arthur T. Mann.

Medical and Surgical Monitor (Indianapolis), March 15.

42 Premature Burial. Noah E. Aronstam and Louis J. Rosenberg.
43 Climate of Florida, and the Diseases that may be Benefited by It. William B. Fletcher.

Kansas City Medical Record, March.

44 Follicular Tonsillitis. Geo. A. Hewitt.
45 Sleeplessness in Heart Disease and its Treatment. C. C. Gibbes.

Albany Medical Annals, April.

46 *Ectopic Pregnancy: Primary Rupture the Opportune Time for Making Diagnosis. George McNaughton.
47 *Lack of Uniformity in Prescribing Myopic Glasses. S. Busby Allen.
48 *The Early Recognition of Malignant Growths. Edgar A. Vander Veer.

Occidental Medical Times (San Francisco), March.

49 Simple Garbage Incinerator and Crematory—On Improved Form of Apparatus for Regenerating Formaldehyde Gas. J. J. Kinyoun.
50 What Should Be Done with Chinatown? Douglas W. Montgomery.
51 *Bacteriologic Diagnosis of Diphtheria. W. H. Kellogg.
52 *Sequelæ of Diphtheria. Wm. Fitch Cheney.
53 *Specific Treatment of Diphtheria. George H. Evans.
54 Caseous Degeneration of the Mediastinal Glands: Operation. Recovery. W. S. Thorne.

Merck's Archives (N. Y.), March.

55 Treatment of Headache. L. Harrison Mettler.
56 Use of Ice Per Rectum in Narcotic Poisoning. Willis Cummings.
57 Sulphur and its Derivatives. J. H. Jackson.

Indiana Medical Journal (Indianapolis), March.

58 Influenza, with Special Reference to Ethmoidal Cells and Middle-Ear Complications. John J. Kyle.
59 Post-operative Ventral Hernia. Robert T. Morris.
60 Antitoxin in Diphtheria. Edwin Rosenthal.
61 *Mechanical Effects of Nasal Obstruction. Frank A. Morrison.

Interstate Medical Journal (St. Louis, Mo.) March.

62 Case of Choledochotomy for the Removal of Impacted Stones. Howard Lilienthal.
63 Anchylostomiasis. J. H. Dyer.
64 Doctresses of Medicine. T. C. Minor.
65 *New Methods for the Application of Old Principles in Treatment of Fractures and Deformities of Limbs. James G. Hughes.

Obstetrics (N. Y.), March.

66 Pregnancy in Accessory Horn in Uterus Duplex. Erwin Kehrer.
67 Obstetrical Nursing. Louis F. Bishop.
68 Ectopic Gestation—Report of Cases. J. E. Gilcreest.

New Yorker Medicinische Monatsschrift, February.

69 Ueber die Beziehungen des Hausarztes zu seinen geisteskranken Patienten. George W. Jacoby.
70 Ueber Sklerema neonatorum. C. Schmitz.
71 Tuberculose der Tonsillen. Behandlung der Lungen-tuberculose mit electrischem Licht und Sauerstoff. W. Freudenthal.
72 Ein Aufruf zur Grundung einer Deutschen Lungen-Heilstatte für Gross New York als Zweig der New Yorker und Brooklyner Deutschen Hospitaler. S. A. Knopf.

Archives of Otology (N. Y.), February.

73 On the Hearing of Cerebral Abscesses. Prof. Passow.
74 *Non-operative Cases of Acute Inflammation of the Mastoid Cells. Gorham Bacon.
75 Otitis Abscess of the Temporal Lobe. Herman Preysing.
76 Three Cases Operated upon for Otitic Abscess of the Temporal Lobe, with Fatal Result. F. Ropke.
77 Report of the Progress in Otology for the Second Quarter of 1900. A. Hartmann.

Bulletin of Cleveland General Hospital, October, 1900.

78 Fractures of the Pelvis with Injuries to its Contents. Joseph F. Hobson.
79 Amyloid Kidney. Alfred S. Maschke.
80 Spontaneous Rupture of the Uterus at Three Months. N. Stone Scott.
81 Notes of a Case of Heart Disease. W. J. Scott.
82 Local Use of Normal Saline Solution. Frederick C. Taylor.
83 Glioma of Retina. Wm. E. Shackleton.

University of Pennsylvania Medical Bulletin (Philadelphia), March.

84 A Series of Twelve Articles on Medical Men Prominent in the Civil and Military Affairs of Revolutionary Times. Francis R. Packard.
85 *The Treatment of Trifacial Neuralgia, with Report of a Case of Evulsion of the Second and Third Divisions of the Gasserian Ganglion. J. William White.
86 *Value of the Tuberculin Test in the Recognition of Latency or Quiescence in Tuberculosis of the Bones and Joints. A Preliminary Report. Charles H. Frazier and Montgomery H. Biggs.
87 Digest of Recent Literature upon Perforation of the Intestine in Typhoid Fever. John H. Jopson.

Iowa Medical Journal (Des Moines), March 15.

88 Hygiene from a Medical Standpoint. J. C. Shrader.
89 The Symptomatology and Prophylaxis of Smallpox. N. C. Schlitz.
90 Some Observations on Smallpox. V. L. Trynor.

St. Louis Courier of Medicine, March.

91 Results Following the Cure of Chronic Defects of the Vesical Function. Eugene Fuller.
92 Some Recent Researches in Rheumatic Fever, with Remarks on Internal Antisepsis. L. T. Riesmeyer.
93 Cilia in the Anterior Chamber. A. E. Ewing.
94 Selection and Administration of Anesthetics. Alfred Roulet.
95 Report of a Case of Articular Rheumatism with Fatal Heart Complications in a Child. Hudson Talbott.
96 Points of Interest Gathered from Eastern Hospitals. Frank G. Nifong.

Archives of Pediatrics (N. Y.), March.

97 *Hemorrhage into the Suprarenal Capsule in Still-Born Children and Infants; Report of a Case Showing Rupture of the Sac and Escape of Blood into the Perineal Tissues and the Peritoneal Cavity. (Concluded). S. McC. Hamill.
98 *The Diagnosis and Treatment of Adenoids by the General Practitioner. Francis Huber.
99 *Some Observations upon the Temperatures of Apparently Healthy Children; An Experimental Study. W. M. Donald.
100 Case of Apparent Recovery from a Congenital Abnormality of the Heart. John Thomson.
101 Tumor of the Cerebellum in a Boy of Seven Years. S. Rush Ketcham and Luther C. Peter.
102 Report of a Case of Diabetes in an Infant. William E. Young.

American Journal of Surgery and Gynecology (St. Louis, Mo.), March.

103 *Surgical and Pathologic Observations on Epityphlitic Abscess. Augustus C. Bernays.
104 Significance of Hematuria. J. Block.
105 Operative Treatment of Large Pharyngeal Tumors. J. F. Binnie.
106 *A Case of Intermittent Hydrops of the Knee. Geo. W. Cale, Jr.
107 Neuroepithelioma (Glioma) of the Retina; and its Surgical Treatment. James Moores Ball.
108 *Consideration of the Different Operative Procedures in the Treatment of Retrodisplacements of the Uterus. O. Beverly Campbell.
109 Removal of a Pregnant Uterus for Infected Placenta Previa Centralis. Emory Lanphear.

Therapeutic Gazette (Detroit, Mich.) March 15.

110 *Nitrate of Silver and Other Salts of Silver in the Treatment of Inflammation of the Mucous Membrane of the Upper Respiratory Tract. E. B. Gleason.
111 *Post-operative Pneumonia Complicated by Empyema, with Remarks on the Proper Treatment of this Condition. Philip Marvel.
112 *Chloretone in Dusting Powders. E. Hillingsworth Siter.
113 As to that Important Function of the Blood in Health, its Alkaline Reaction and the Reduction of its Alkalinity in Certain Pathologic Conditions. R. Wernigk.
114 *Notes on a Case of Pemphigus, Particularly in Connection with the Local Treatment. Arthur Van Harlingen.
115 Gastric Ulcer: Its Etiology, Symptomatology, and Diagnosis, with Special Reference to Treatment. D. D. Stewart.

Pacific Medical Journal (San Francisco), March.

116 Epilepsy. J. R. Curnow.
117 Necessity for More Thorough Training in Nervous and Mental Diseases in Medical Schools. E. W. King.
118 Diseases of Digestive Organs. A. W. Perry.
119 Relation of Drinking Water to Disease. Winslow Anderson.
120 Culture of American Ginseng. Harlan P. Kelsey.
121 Opium Poisoning Treated with Permanganate of Potassium, Eustorjio Calderon.

New England Medical Monthly (Danbury, Conn.), March.

122 Differentiation of the Impersonal and Personal in Medical Thought and Art. W. B. Konkle.
123 Amenorrhea and Emmenagogues. J. Alexander Wade.
124 Treatment of Bronchitis. I. N. Love.
125 *Prophylactic and Curative Action of Urotropin. Dr. Zaudy.*
126 *Treatment of Reflex Neuroses from Disturbed Pelvic Mechanism. Byron Robinson.
127 Uric Acid Diathesis—Its Treatment. O. L. Suggett.
128 Laryngo-trachitis Membranoso. Warwick M. Cowgill.
129 Suggestions, Theoretical, and Clinical, Concerning the Use of Oil as a Reconstructive in the Treatment of Bottle-fed Infants During Convalescence from Wasting Diseases. E. C. Collins.
130 Pulmonary Surgery. J. Murray Johnson.
131 Representative Cases Illustrating the Clinical Value of Cod-Liver Oil in Tubercular Inflammations. H. Y. Ostrander.

Dominion Medical Monthly (Toronto), March.

132 Medical Folk Lore in India. R. D. Rudolf.
133 *The Vicarious Absorption of Oxygen in Pulmonary Obstruction. Perry E. Doolittle.
134 Carbolic Acid Poisoning: A Medicolegal Case. George Elliott.
135 A Case of Pyonephrosis. Walter McKeown.

Alabama Medical Journal (Birmingham), March.

136 Cesarean Section as an Operation of Election. With the Report on a Case. Lewis C. Morris.
137 Intubation and Antitoxin. S. L. Ledbetter.
138 Amputation Above the Knee Under Analgesia from Spinal Subarachnoidean Cocainization. Reported by C. A. Fox.

Georgia Journal of Medicine and Surgery (Savannah), March.

139 Plea for Early Operation in Ovaritis Followed by Epileptiform Attacks. W. Hutson Ford.
140 Heroin Hydrochlorid as a Remedy in Coughs. W. E. Fitch.
141 Movable Kidney. R. L. Payne.

Texas Medical Journal (Austin), March.

142 Roberts-Hawley Goat Lymph Compound. *Willis P. King.*
143 Catarrhal Fever. J. M. Colley.
144 Chloretone as a Sedative in Gastric and Cystic Irritability. C. F. Darnell.

Vermont Medical Monthly (Burlington), January.

145 *Lobar Pneumonia. W. L. Heath.

AMERICAN.

1. **Congenital Shoulder Dislocation.**—This article is in substance similar to the article abstracted in THE JOURNAL of April 6, ¶118, p. 996.

3. **Comparative Pathology of Jews.**—Fishberg gives statistics showing the alleged freedom of the Jews from certain diseases such as syphilis, tuberculosis, etc., and their greater longevity over other classes. He also notices their special liabilities to diabetes and nervous and mental diseases.

5. **Tropical Dysenteries.**—The different forms of dysentery as they appear in the Philippine Islands are described by Long, who recognizes five types: The first, the fulminating catar-

rhal dysentery, is the most fatal of them all. The patients usually die in from four to seven or eleven days. The cause is usually ascribed to Shiga's bacillus. The attack occurs suddenly with high temperature, rapid pulse, flushed face, coated tongue, great prostration, immense number of bowel movements, becoming bloody and slimy, abdominal tenderness, vomiting, etc. The mesenteric glands are enlarged, the disease is confined chiefly to the large intestines so that the whole or practically the whole colonic tract seems to be one homogeneous necrotic mass. Treatment has been altogether unavailing. The second type is simply acute dysentery, starting as a diarrhea and often associated with malaria. There is no rise of temperature to speak of, slight abdominal tenderness and some tenesmus. The cases are easy to cure in the beginning, but are liable to become chronic. The third type, generally called the amebic, can be divided into four different classes: The amebic, the trichomonadic, the cercomonadic, and the mixed type. The amebic dysentery is one of the most prevalent, occurs suddenly, without warning, and is hard to cure. The fulminating type excepted, it is the worst of all dysenteries, becoming a mixed type in its chronic stage. It has a tendency to become chronic and is specially prone to cause liver abscesses. It kills either by perforating ulcer or excessive toxemia, by metastatic abscesses, especially in the lungs, and by paralysis of the intestine, or inanition. The trichomonas type is obstinate to treatment and often becomes chronic. The cercomonas type is deadly when associated with streptococcus, and the mixed is fatal on account of its complications. The fourth type of dysentery is the chronic dysentery so-called, though usually a sequel of the acute and amebic forms. The fifth type is gangrenous and diphtheritic, usually fatal from perforation and general peritonitis or toxemia. In these cases the patient passes large shreds of membrane. There is often persistent vomiting and agonizing pain and tenderness. The sequelæ of dysentery met with in the Philippines are numerous. The chronic form is followed by gastric disorders, acute constipation, intestinal paralysis, anemia, typhoid, neuritis, liver and kidney disease, abscess, etc. Most liver abscess patients die. The best prophylaxis is to avoid eating or drinking anything which has not been thoroughly disinfected by boiling or cooking. Alcohol is, in Long's opinion, bad for the condition, excepting with caution in the chronic stages of the disease. One thing should be remembered in the tropics, that a purgative is advisable every two weeks if the bowels are sluggish. Exposure to the sun in the hotter part of the day and exposure to the night air should be avoided. Four drugs are mentioned as specially valuable; 80 per cent. of the patients will be cured if these are properly used. One ounce of sulphate of magnesium in one-half a glass of warm water before breakfast, repeating it later in the day if necessary, will cure many cases, or small repeated doses of calomel may fulfill the same purpose. Ipecac will often succeed if given in doses of not less than 40 gr., the patient being put to bed, treated with opium, ice-bags and mustard plasters to the stomach. From 60 to 70 per cent. will be cured by one administration; 10 to 20 per cent. by the second dose, and 20 per cent. will require some other kind of treatment. Another drug is bismuth subnitrate, which he gives in 40 gr. doses, with 5 gr. of Dover's powder every four hours as the case may indicate. He also gives ipecac in 1 to 1.5 gr. doses every hour for two or three days, often with good results, though he prefers his first mentioned method. Drugs given by enemas. Of these he prefers the silver nitrate, 20 gr. to the pint, or quinin for amebic cases. The bowels should be cleansed with a soapsuds enema before administering the medicated injection, and a soft rubber rectal tube with a fountain syringe should be used. Tincture of chlorid of iron, 1 gr. to the pint in hot water may give as good results as nitrate of silver. Normal salt solution, laudanum, and starch water enemata are also of value. In feeding, some highly nutritious food in small amounts is advisable. Milk should never be given as such, but always diluted with rice or barley water or lime water. Kumyss or allied preparations may be tried, also fresh beef juice, a saline enema now and then and turpentine stupes and massaging of the abdominal region should not be neglected.

8.—This article was noticed editorially in The Journal of April 6, p. 968.

9. **Fractures.**—The new method of treating fractures is based on the principle, as Hatch puts it, of converting all compound fractures into simple ones, to operate on the single fractures making them compound, and then apply the first principle, making them simple. The technique is the same for both forms, except that in simple fractures there is a point of selection for the incision, while in compound fractures the wound is simply enlarged. Antisepsis must be most complete, thorough scrubbing with soap and water, bichlorid solution, permanganate, and oxalic acid solution, covering all the other parts of the patient with sterile sheets and towels. The extremity should be held in a vertical position for a few minutes, then a rubber constrictor applied, and a sterile posterior and anterior splint of any suitable material fitted. The points of selection for incision are for the tibia along the crest, for the femur along the outer side of the thigh, for the radius behind the supinator longus, for the ulna along the ulnar side of the arm where the bone is most superficial, for the humerus along the outer side of the arm. A good, free incision should be made, as it is important to have plenty of room, and the size of the incision does not complicate the case. All clots and débris should be washed out, removing all shreds of soft tissue and loose pieces of bone. If any sharp points of bone prevent perfect coaptation, remove them. Remove the rubber band, tie all bleeding points, and be sure that the wound is dry. If in case of a compound fracture the periosteum is stripped up, carefully replace it. Secure perfect coaptation. Apply one of the splints before closing the wound, to make sure of holding the fragments in place. Close the wound with catgut sutures without drainage, and lay a thin pad of iodoform gauze over the wound; apply the second splint and bandage quite firmly, as there will not be any swelling like that which occurs after a fracture treated in the usual manner. Remove dressings on the seventh or eighth day and apply a plaster cast or ambulatory splint, according to the requirements of the case. It is safe to discontinue splints at least one week earlier than in fractures treated by former methods. Hatch also reports cases. The author's deductions are that we should not be deterred from operating on fractures by the fear of sepsis, and that operation would be warranted if it did nothing more than relieve the pain and swelling, which it certainly does. It also shortens the repair process at least one week, and reduces the chances of deformity and non-union to a minimum.

12. **Atmokausis.**—The use of steam at a temperature of 100 C. to the interior of the uterus, a method used abroad by Pincus, Dührssen, Snegirjoff and others, has been employed by Bandler who gives the *rationale* of its action; he explains it, analyzes the experiences of various writers, and describes the technique of the method. Dilatation of the cervix is an essential preliminary. Narcosis is not necessary, no pain being felt except when the cervix is involved. As a rule the cervix must not be treated, as it may cause atresia before the complete obliteration of the cavity of the womb and in any case too early cervical atresia should be avoided. On the introduction of two Simons' specula after disinfection of the parts, the posterior lip of the cervix is grasped with the vulsellum forceps, previously boiled. The uterine tube should be marked so that it may be determined how far it is introduced. It is carried up above the internal os as high as necessary. The metal tube which carries the steam then follows, the bulb at its lower end closing the opening at the external end of the uterine tube. During the process of treatment this inner metal catheter is moved occasionally to permit the outflow of liquefied steam and coagulated blood and to prevent too high pressure. The uterus soon contracts under the steam and the tube is slowly and gradually drawn out until, when it reaches the internal os, the entire inner surface of the uterus has been affected. If the cervix is also to be treated the steam is continued while it is withdrawn to the external os. After the treatment rest in bed for ten or fourteen days is necessary. The duration of the steam as a rule is about 15 to 20 seconds in younger women, where no obliteration is desired, and four to eight minutes if total obliteration is intended. The temperature is 100 C. in

the boiler, which probably amounts to about 70 C. in the uterine cavity. There is generally a serous discharge for several days or weeks and no repetition should be done within four weeks, or until after regeneration of the mucous membrane. The contraindications are malignant disease of the endometrium or the presence of retained membranes, and the affections of the tubes and inflammatory conditions which are contraindication to curettage. Bandler thinks that the method is the best we have for the treatment of uterine arterio-sclerosis.

13. **Coexistence of Uterine Carcinoma and Fibroma.**—From a study of the clinical and histological manifestations of reported cases, Dorland concludes that it is possible for fibroma and carcinoma of the uterus to coexist, and this coexistence may show itself in one of three ways, as follows, in the order of the frequency: 1. Fibromyoma of the corpus uteri with carcinoma of the cervix, the increased vascularity of the uterus and the irritant leucorrheal discharges attendant upon the benign tumor favoring in those women so predisposed the development of cervical malignancy. 2. Fibromyoma of the corpus uteri with associated adenocarcinoma of the endometrium, the malignant disease not invading the benign tumor, but originating either in the tubular utricular glands or in the included glandular vestiges which may be present. 3. True cancerous degeneration of an adenomyoma, the malignant change originating in glandular vestiges, included in the uterine growth, or the carcinomatous disease invading the benign growth by extension from an endometrial adenocarcinoma through contiguity of tissue. The article concludes with a series of cases from the literature.

14. **Shock in Abdominal Operations.**—Turck points out that while many facts in regard to shock are mysterious, there are two important factors not yet sufficiently recognized: One is the decreased resistance to infection when shock is present and the second is the increased resistance against infection produced by the internal application of heat in preventing or reducing shock. He gives the details of his experiments to demonstrate the effects of heat in preventing or reducing shock and to determine the changes in the blood during shock. He injected the serum of an animal in this condition into healthy animals, and reproduced the condition in them. He found that animals thus treated were more susceptible to infection, though more experimental work is required to establish this point. In another series of experiments he found that when an animal is stimulated by heat for one hour or more, the heat applied within the splanchnic area by the methods previously described, immunity or resistance against infection was produced. When the serum of such an animal was injected into another there was increased resistance produced or partial immunity to infection.

15. **Phenylhydrazin Test.**—Williamson modified the phenylhydrazin method by heating equal parts of sodium acetate and phenylhydrazin hydrochlorid, one-half inch of each in the ordinary test-tube, with the urine over a spirit-lamp for two minutes after the solution had reached the boiling point. He then leaves the test-tube for one-half hour to twelve hours to form the deposit. Willson modified Williamson's method by, instead of allowing the solution to cool gradually or stand for hours, putting a drop directly on the slide and examining it under low power (AA Zeiss) of the microscope. In from one-half to two or three minutes, depending upon the temperature of the room, and the quantity of sugar present, if the reagents have been thoroughly mixed and dissolved in the urine before boiling, typical crystals of phenylglucosazone can be seen forming beneath the eye of the observer. The color is a brilliant yellow, contrasting strongly with the brown globules and dark yellow granules that appear in the precipitate. A still further modification is mentioned; he favors the somewhat more slow method of using a small beaker as an improvised water-bath, but this method only lengthens the examination to about ten or twelve minutes. He believes that in this way we can have satisfactory methods available to everybody who possesses a microscope and test-tube, and this modified phenylhydrazin test combines the most valuable qualities and gives the greatest accuracy of any of the tests employed.

16. **Stammering.**—Makuen points out that stammering is due to faulty mental action, the lack of proper combination of ideas and oral expression. The first indication in the treatment, therefore, is to direct the mental processes into normal channels. We must untangle the somewhat twisted thoughts and the patient should be unconsciously diverted from the all-absorbing subject at hand until he has regained his mental equilibrium, and then led gradually back to the main subject and given a clear conception of exactly what it is he desires to say and shown how to say it in a deliberate and clear manner. It is quite possible to do this, and treatment in the beginning of the trouble will be the most certain cure of stammering. It is after the habit has become fully established that the trouble is serious. children should never be allowed to begin to learn to stammer.

18. **Some Therapeutic Fallacies.**—The therapeutic fallacies specially noticed by Peabody are the belief in bitters being conducive to appetite, which, he thinks, act from the alcohol, as a rule, and are liable to do evil in this way. The notion of the therapeutic use of the disinfecting power of boric acid and the astringent use of tannic acid, and certain erroneous theories as to the employment of ergot and lithium are also noted. The notion that arsenic acts as a preservative of the body, when given in toxic doses is an important medicolegal fallacy, since decomposition is specially liable to occur in such cases. The belief in a special action of mercury on the liver still may exist. The overuse of the iodids, especially in arthritis deformans, in gout, lead poisoning, etc., the Bergeon treatment of consumption, and gaseous and aerial disinfection, oxygen inhalation, etc., are also mentioned.

19. **Ionization.**—Fischer's article covers the field of the theory of electrolytic dissociation, and the relation of ions to life phenomena. As regards the latter, he reviews the literature with references largely to the work of Loeb. The theory of ionization, he claims, offers a new field for investigation in the realm of medicine and it will probably produce greater results in the solution of important problems. He has attempted to show the evidences that, in the dealing with the action of dilute solutions of inorganic substance we have to do with the action of their constituent ions. This fact, he thinks, should be borne in mind when we consider the physiologic, pathologic and pharmacologic problems which involve the presence of inorganic substances.

22.—See abstract in The Journal of March 23, p. 830.

26. **Vaccination.**—Fielder thoroughly reviews the subject of vaccination, its methods, symptoms, complications, effects, technic, etc. The points emphasized are, in substance, as follows: 1. Complete natural immunity to vaccination is practically unknown. 2. In primary cases, delayed vesiculation, raspberry excrescence, and abortive course means poor virus. 3. There is no need of transmitting syphilis or tuberculosis. Other infections, such as erysipelas, septicemia, etc., are becoming rarer as methods improve. 4. During the second week of vaccination, a large painful areola may be considered normal, if bright red, and if the vesicle be of typical appearance. If the vesicle is irregular, filled with greenish pus, and the areola be a dark livid, purplish hue, there is a mixed infection. 5. Generalized vaccinia, aside from auto-inoculation, is rare; it can be decided by inoculation into another subject, if it appears. 6. The destruction of the vaccin vesicle does not interfere with the immunity. 7. Immunity is acquired by the time the areola is at its height, that is, eight or ten days after vaccination. 8. Vaccination in a pregnant woman does not protect the child. 9. The fetus *in utero* may have smallpox if the mother has it. A child born while the mother has smallpox is not protected, but has been exposed and will probably develop the disease. 10. The duration of the immunity is very variable, and in the presence of an epidemic is not sufficient. A successful vaccination within five years will probably prevent the contracting of the disease, but will not be a certainty. 11. The duration of immunity to revaccination, which is conferred by vaccination, is extremely variable, and is probably short—two years or under—in a large proportion who have been exposed. 12. The protective power of vaccination is in

direct proportion to its excellence. The completeness is shown in the resulting scars. The quality of the scar is more important than the number. 13. While the quality of the scar is a fair indication of its protective power, it is an untrustworthy guide in deciding whether the individual is susceptible to revaccination. 14. Persons immune to smallpox can often be successfully revaccinated. 15. Vaccination protects against smallpox as fully as an attack of the disease protects against a subsequent attack. 16. Persons who have been successfully revaccinated are much less likely to contract or die of smallpox than persons who have been vaccinated only once. The more successful vaccinations one has had the more sure is the immunity. 17. Revaccination should therefore be considered as important as the primary vaccination, and as systematically practiced. 18. Primary vaccination should be performed in infancy; revaccination at the school age. In the presence of an epidemic, however, revaccination should be performed even when primary vaccination has been comparatively recent. 19 .The eruption in revaccination is more likely to follow the type of vaccinoid than that of typical vaccinia. 20. Vaccinoid protects if the vaccin used is of high-grade efficiency; if poor, only partial immunity is conferred. 21. All vaccin virus should be subjected to rigid physiologic tests when using. It should be retested monthly as long as it is on sale. The virus from each animal should be kept by itself and numbered, and be known by that number when issued. 22. Vaccination should be performed only under aseptic precautions. 23. It is not sufficient merely to smear the virus upon the scarified areas, but it should be thoroughly rubbed, scratched or pricked in. 24. Vaccination shields often do more harm than good. 25. Infected cases of vaccination should be cared for by the physician. 26. Remember that the destruction of the vesicle does not impair the protective power of vaccination, and if signs of mixed infection appear, open the vesicle, cleanse the wound and treat it on general surgical principles.

32. **Diphtheria.**—Gidney maintains that the essential treatment for diphtheria is the use of antitoxin. The routine internal treatment has been abandoned. When the pulse shows signs of failure, digitalis, strychnin and alcohol may be of some use. While the treatment merely consists in administration of the antitoxin early and in sufficient dose, there need be little fear of administering an overdose.

33. **Mixed Feeding of Infants.**—The subject of mixed feding divides itself into two heads: 1. Artificial feeding as adjuvant to nursing. 2. Human milk as an adjuvant to other foods. Besides the conditions mentioned by text-books, a deficiency of the quality of milk secreted and a diminution of solid milk constituents, Zahorsky enumerates others: The excessive amounts of proteids causing colic and indigestion; the very laxative effect of mother's milk and a condition which has been observed several times, that human milk becomes toxic. He mentions the value of artificial feeding with human milk in the following conditions, marasmus, gastroenteric infection, rickets with tetany, and scurvy. In these conditions a little human milk may have a powerful therapeutic effect.

35. **Burns.**—After first noticing the importance of burns and the extent to which they may occur without becoming fatal, Allen remarks on their treatment, especially in infants. While the pain is not usually very great at first, our first efforts are directed to calming the patient and meeting the vital depression and shock to the nervous system. For this aromatic spirits of ammonia in appropriate doses is generally found as efficacious as anything, and unless the child is too young opium properly administered will be of service. For local application he knows of nothing better than a 1 per cent. solution of picric acid for burns of the first and second degree. After the area has been coated once or twice with the solution, a thin layer of absorbent cotton may be applied dry, and after this a layer of impervious tissue and then as much cotton as is required for warmth, protection, etc. At the subsequent dressings all may be removed excepting the layer next the skin, which may be again wet and the dressing applied as before. The danger of outside infection is less, and pain avoided by not disturbing the inmost dressing. Erythematous areas may be relieved of pain by local baths containing nitrate of potassium or bicarbonate of soda. In deeper and extensive burns a permanent bath offers the best means of securing comfort and warding off a fatal issue. He mentions the old carron-oil as one of the best known and most extensively use applications. He has been in the habit sometimes of using it with some antiseptic. One important point he thinks, is to refrain from the removal of dressings; if thin layers of gauze, cotton, or cheese-cloth come next the wound, they need not be taken off but may be soaked with the application, whatever it may be. The chances of infection are lessened and mechanical irritation avoided.

39. **Tuberculosis.**—The new treatment recommended by Fliesburg consists in the hypodermic injection of a prescription of which the following is the formula:

℞.	Iodi puri cryst	1.50
	Phosphori puri	0.25
	Thymolis	
	Mentholis, āā	2.50
	Guaiacolis	1.25
	Ol. morrhuæ sterilizat	50.00

Ft. sol. secundum artem. Sig.: Use only hypodermically. For tuberculosis of the lungs, throat, glands and intestines, one to three syringefuls once a day, preferably in the forenoon; for tuberculosis of joints and tendons, inject into foci deeply, and then apply bandage; repeat in four to eight days as necessary.

He reports cases which he thinks show the value of the method.

40. **Influence of Sexual Organs on the Eye.**—Morton calls attention to the eye changes and the symptoms that may occur in connection with puberty, the menopause, etc.; also those caused by the habit of masturbation, and reports cases illustrating them.

41. **Potassium Iodid.**—Two cases are reported by Mann as illustrating the idiosyncrasy to this drug. In one the administration of 10 gr. of potassium iodid three times a day in less than two weeks caused an extraordinary eruption followed by death. In the other a patient taking 180 gr. regularly every twenty-four hours suffered no inconvenience.

46. **Ectopic Pregnancy.**—McNaughton thinks that the diagnosis can be made as easily as that of most other genital diseases of women. It will not often be required before rupture, though it is possible. In 70 cases he made the diagnosis thus in three. He emphasizes the necessity of regular inspection of the vermiform appendix in cases of laparotomy for this condition. His special points are that ectopic pregnancy is not a rare accident; that impregnation usually takes place in the tube; that rupture takes place in most, perhaps all, cases before the eighth week, when presumptive diagnosis is not difficult.

47.—See abstract in The Journal of March 9, p. 681.

48. **Malignant Growths.**—Van der Veer reviews the statistics of carcinoma and points out its increase, calling attention to the needs of its early recognition, as it is then that the patient can best stand the shock and hemorrhage, and there is greater probability of the thorough removal of the malignant growth. Unsightly scars are also more likely to be avoided. He especially notes the importance of early recognition of malignant growths in the breasts and female genitals, and insists on the importance of the practitioner learning about any previous injury that has occurred. He favors exploratory incision in clearing up the diagnosis in obscure cases; though laparotomy is always dangerous, still it ought to be done where it will confirm the diagnosis.

51.—See abstract in The Journal of March 16, p. 759.

52.—Ibid., p. 760.

53.—Ibid., p. 759.

61. **Nasal Obstruction.**—In a series of experiments in the physiological laboratory of the Medical College of Indiana, Morrison arranged some special apparatus for investigating this subject, and in substance gives the following summary of his results: With the mouth slightly closed each ventricular

systole causes a distinct but slight change of pressure in the buccal cavity. Quiet respiration through the nose has but little effect. In wide open mouth breathing not exceeding eighteen to twenty efforts per minute no change in pressure occurs. As the orifice of the mouth is slowly contracted, negative pressure is gradually developed in inspiration and increases with the diminution and size of the orifice until it is closed, when it abruptly falls to the normal. If the mouth be opened widely and respiration is increased to thirty-six per minute, marked negative pressure persists in inspiration. In the nose without obstruction and with the mouth closed a very slight negative pressure is developed in inspiration, and a still slighter positive pressure in expiration. In the ear no appreciable change of pressure was noticed. Slow occlusion of one nostril with closed mouth causes rapid increase of the negative mouth pressure, which becomes very marked when a sense of dyspnea leads to respiratory effort. If one resists the feeling of dyspnea and breathes slowly, such increase does not occur. If the mouth be slightly opened negative pressure still persists, but slightly diminished. Repeating aloud some words very rapidly until out of breath, then taking a sudden deep inspiration with one nostril closed develops greatly exaggerated negative mouth pressure. In the nose, occlusion of one nostril causes high negative pressure during inspiration, which is increased if the other nostril is partly occluded. If both nostrils are completely closed no such fluctuation in pressure takes place. This high negative pressure from occlusion of the nostrils is only very slightly relieved by opening the mouth. When sufficient obstruction is produced to lead to mouth breathing or labored attempts at nose breathing fluctuations of pressure take place in the middle ear. In a state of health very little negative pressure or "suction force" is developed in either mouth or nose. No changes occur in the ears. With rapid breathing negative pressure slightly increases in both nose and mouth, but not to an injurious degree. With marked nasal obstruction the negative pressure is found in both nose and mouth, and slightly in the ear, and is increased by any effort leading to exaggerated respiration, such as speaking, singing, muscle exertion, etc. This condition is not relieved entirely by mouth breathing. Early relief from nasal obstruction is demanded. Before the patient becomes a "mouth breather" every inspiration has been acting as a cupping glass upon the nasal and nasopharyngeal membrane and the cupping action is not relieved when the lips are parted to the extent that they are in ordinary mouth breathing.

65.—This article appeared in THE JOURNAL of February 16, p. 424.

73. **Cerebral Abscess.**—The case reported by Passow was that of a suicide on whom operation had been made for cerebral abscess seventy days before. At the autopsy it was found that the cavity had filled up and nothing could be seen of the abscess but a barely visible linear scar. The condition of the dural cicatrix was similar to those described by Macewen. The cicatrix itself was about one-third the size of the original abscess, and extended into the cerebrum for not quite 1 cm., but the surrounding brain substance also showed pathologic changes in the nerve cells, and the glia tissue was ill-defined and vascular, with numerous round cells. The nerve cells were irregular in shape, of different sizes, devoid of process and partly of nuclei. There was no sharply drawn line between the normal and abnormal tissues.

74. **Mastoiditis.**—In 40 cases of acute purulent otitis media coming in regular order in the practice of Bacon, operation was required in 10, 2 of these with subsequent operation for sinus thrombosis, one of which terminated fatally. That is to say, in 30 cases the mastoid cells were not opened. Brief descriptions are given of a number of these cases. Treatment was by the use of the artificial leech and Leiter coil, together with free incision in the drumhead and frequent douching of the ear with boric acid or bichlorid solution. He does not say he is opposed to mastoid operation, but since he has used this method of treatment, he has had fewer operations than formerly. It requires considerable experience in aural disease and ability to recognize very early the more serious symptoms which call for operation, but the aural surgeon should do all in his power to cure his patient without opening the cells.

85. **Trifacial Neuralgia.**—White summarizes his views of the general subject as follows: The essential cause of trifacial neuralgia in any case is usually unknown. It may be a central, peripheral or general constitutional condition. There is a corresponding uncertainty in the treatment. The period of medical treatment should be distinctly limited in severe cases when the attacks succeed each other at short intervals. If unsuccessful, it should not extend beyond six months or a year. It will vary according to the circumstances. Operations on the peripheral nerves should still be done and are likely to be of use when the disease is distinctly limited to either the second or third division of nerves, or when we are confident that it is due to peripheral neuritis. The peripheral operation might even effect a cure of the central form by producing atrophy of the centers, and if very thoroughly done the results are often excellent. In the exceptionally severe cases affecting all the divisions of the nerves and with no immediate relief from medical treatment, the intracranial operation may be considered as the primary operative procedure. As a rule it should be resorted to only after failure of medical treatment and of peripheral operations. The Hartley-Krause operation is the preferred one. The operator may limit his interference to evulsion of the second or third division between the ganglion and foramina, as this has been followed by cure in a number of cases. By thus doing he lessens the risk to the abducens and cavernous sinus, and by leaving the first division untouched diminishes the danger of trophic change in the eye. Any primary and exclusive disease of the first division has never been known. It is quite possible, however, that further observation will show that it is better to remove the entire ganglion with its motor and sensory roots. The author reports a case which inspired him to give the above views.

86. **Tuberculin Test.**—Frazier and Biggs favor the use of the tuberculin test and maintain that when properly employed it is harmless. There are certain cases, however, in which it is apparently somewhat unreliable. Clinical evidences from thousands of cases speak for the reliability of the tuberculin test, though occasional positive reaction will follow injections of tuberculin where tuberculosis can not be or can not be proven to be present. In syphilis, for example, reaction may occur. It is possible that remnants of the disease may still exist, giving rise to reactions where it had not been detected or suspected. Tubercular foci may also be present. The existence of such tubercular foci in the lymphatic system might make the tuberculin test apparently unreliable for the demonstration of the presence or absence of tubercular lesions in other parts.

97. **Hemorrhage into Suprarenal Capsule.**—This concluding installment of Hamill's article is entirely given up to the description of cases, collected from the literature, of the lesion of hemorrhage into the suprarenal capsule in the stillborn and in infants.

98. **Adenoids.**—Huber describes the symptoms and consequences of adenoid growths and calls attention to certain points in the diagnosis. He mentions two which jointly offer a ready and easy method. These consist in: 1. The presence of two small hypertrophied lymph nodes, painless and freely movable, at the angle of the lower jaw, one on either side. These are apt to become swollen in catarrhal inflammation of the nose, but return to their normal size unless a mixed infection has taken place. 2. The presence, on oral inspection and examination, of numerous small lymphoid hypertrophies of the mucous membrane of the posterior pharynx with larger masses occasionally present at the level of the soft palate. The appearance is characteristic; the isolated prominences are pearly and translucent, resembling sago grains, projecting above the surface of the pharyngeal mucous membrane; the presence of both signs together justifies the diagnosis of adenoids and renders digital exploration of the nasal pharynx unnecessary. These two signs have been insisted upon and have for some years been taught in the practical course of the Vanderbilt Clinic. The observations are not claimed as original, though

Huber can not at once recall the original source. As regards treatment, the earlier the growths are removed the better. *They interfere with normal nasal respiration;* the blood is not sufficiently aerated, and the bad results are not local, but general. In very mild cases attention to the general health and the internal administration of syrup of iodid of iron should be advised for a time, but in any case where decided symptoms are associated, the growth should be removed. He prefers to operate without anesthesia. If after a few weeks it is found that the growths have not all been removed, a second operation can be done. The existence of acute otitis media, bronchitis or inflammatory processes in any part of the respiratory tract is a contraindication for operation. The after-treatment consists in instilling warm water into the nares every few hours, with liquid diet, and confinement to the house for a few days. Nasal irrigation, no force being used, is kept up for weeks. Iron, arsenic, strychnia or syrup of iodid of iron is continued for months.

99.—See abstract in The Journal, xxxv, p. 1653.

103.—See abstract in The Journal of January 12, p. 128.

106.—Ibid., xxxv, p. 1047.

108.—Ibid., January 12, p. 126.

110. **Nitrate of Silver.**—Three cases of inflammatory disorder of the upper respiratory tract are reported, which were treated by strong solution of silver nitrate—60 gr. to the ounce —applied on the lateral walls of the fauces. When painted on this portion of the throat Gleason claims that strong solutions of silver nitrate possess a sedative, an astringent, and an antiseptic action, the value of which can not be overestimated.

111. **Postoperative Pneumonia.**—*The following questions* were suggested to Marvel by cases in his experience: 1. What is the probable percentage of post-operative pneumonia? 2. Should evacuation by aspiration or drainage be recommended before resolution is complete? 3. Does the absence of the characteristic physical signs argue in favor of the inadequacy of the signs to accurately indicate the degree of danger in the disease? As regards the first question, by analysis of the statistics he finds that the percentage given by various writers of postoperative pneumonia differs so much that no percentage rate is determinable, but that an estimate may be stated as ranging between .12 and .33 of 1 per cent., and the fatal cases between .01 and .09 of 1 per cent. In answer to the second question, he does not advise aspiration until the crisis is passed, unless the embarrassment to the circulation and breathing or strong evidence of toxemia makes it imperative. As regards the third, he quotes Andrew H. Smith on the uncertainty of the importance of consolidation, since the toxin formation is still carried on beyond its limits. While the physical *signs are of the greatest importance* in diagnosing the conditions, he does no think these are always proportionate, nor do they represent the measure of gravity in the case and too much stress can not be laid upon the presence and behavior of toxins and their influence in pneumonia.

112. **Chloretone.**—Siter recommends the use of chloretone in dusting powders for painful granular growths, as producing analgesia and not delaying union or granulation. It can be used in combination with *almost any dusting powder.* In the cases reported, over thirty in number, it was used in combination with boracic acid. Its effect is solely, he thinks, an anesthetic one and it has no special influence on the progress of the cure.

114. **Local Treatment of Pemphigus.**—Van Harlingen reports a case of pemphigus treated by the internal use of strychnin and quinin, with stimulants and milk diet, and the opening of blebs, the lesions being dressed in a bichlorid solution. His *plan, he says, is to* open each bleb as widely as possible and later apply a wet dressing of bichlorid of mercury of 1 to 2000 or 1 to 4000, and keep it on for twenty-four to forty-eight hours. This is then removed and ichthyol, either pure or in 20 to 50 per cent. aqueous solution, is applied. After a few days this is changed for a simple zinc oxid paste or ointment or occasionally a europhen or iodoform ointment. When the eruption is very extensive one part may be treated at a time, thus diminishing the danger, which he doubts, of absorption from large surfaces. Other bullar eruptions and pseudopemphigus can also be treated in the same way or at least on this principle.

126.—See abstract in The Journal, xxxv, ¶120, p. 980.

133. **Oxygen in Pulmonary Obstruction.**—Doolittle recommends the use of hydrogen dioxid in 4 to 1 dilution, in conditions where a considerable proportion of the absorbing pulmonary cells are put out of action, as in extensive pneumonia. By giving this in sufficient quantity by the mouth or rectum, to make up for the deficiency of the oxygen taken in by the lungs, *he claims we give the heart* a healthy oxygenated blood to work on and relieve the overtasked working air-cells and heart. He reports cases where this has been tried with apparently very good results. While hydrogen dioxid has been recommended internally in small doses as a heart tonic in pneumonia, etc., he has not been able to find any one who has administered it in sufficient quantity and for the purpose of resupplying the deficiency of oxygen. Its administration does not interfere with oxygen inhalation or any *other remedy which* may be indicated. He thinks its free administration is of value in bronchopneumonia and also in laryngeal diphtheria. In one of his cases he gave a tea-spoonful every five minutes to an infant 3 months old, with the best results.

145.—See abstract in The Journal, xxxv, p. 1296.

FOREIGN.

British Medical Journal, March 23.

Auto-reduction of Hernia "en masse" as a Cause of Abdominal Obstruction. W. J. Walsham.—In this communication the author calls attention to a possibility which does not seem to him to have received much attention from the profession. He reports three cases of auto-reduction of hernia *en masse,* which produced symptoms of intestinal obstruction, requiring operation, and he has had seven such cases during the last few years. *He therefore thinks the condition not so* uncommon. The diagnosis may be attended with considerable difficulty, and he emphasizes the importance of not relying solely upon our observation of the hernial rings, but of obtaining as full a history of the case as possible from the patient. The importance of early diagnosis can hardly be overestimated.

The Lancet, March 23.

Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life. J. Mitchell Bruce.—In this second lecture the author reviews the symptoms of tobacco heart, which is characterized especially by irregularity and anxiety without marked alteration of cardiac sounds or enlargement, at least in young persons. In older ones there may be a certain amount of enlargement and a much greater degree of pain and angina, and altogether a more formidable syndrome; in alcoholism, on the other hand, enlargement is the rule. The precordial impulse is usually weak and there is in a certain proportion a slight apex systolic murmur, indicating mitral leakage. *Complaints usually are of palpitation, faint*ness and precordial pain, but angina is rare as compared with tobacco heart. The gouty changes are also noted, irregularity, dyspnea, precordial pain, angina, systolic murmur of the mitral area, etc. He has never met with aortic incompetency from gout. Closely allied to this condition is a disturbed metabolism, characterized by corpulence and glycosuria. He found that out of 12 cases, 9 had systolic aortic murmur, and nearly one-half an ill-developed mitral systolic murmur. The complaints are very similar to those of the gouty as regards pain, but neither palpitation nor faintness was so often mentioned. Other conditions noticed are cardiac strain, which is specially liable to show its effects in advanced life, particularly in persons who attempt to resume the athletic exercises of their youth. *Syphilis and nervous strain are also noticed, and he* thinks that the profession in general is not alive to the gravity of syphilitic changes in the cardiovascular system. He believes it accounts for a considerable proportion of the more serious cases of heart disease in elderly persons.

Blackwater Fever. J. W. W. Stephens.—The writer believes blackwater fever is essentially a malarial infection in which quinin is the most common determining cause of intoxication. Protection from malaria will insure against blackwater fever and his own experience shows that this protection is possible in tropical Africa under all kinds of conditions without the use of quinin, by paying scrupulous attention to clothing and the use of the mosquito net.

The Practitioner, March.

Intermittent Fevers and Blackwater Fever. Louis M. Sambon.—The various intermittent fevers are described by Sambon, who recognizes four types, corresponding to four different species of parasites, viz., quotidian, tertian, quartan and what he calls semi-tertian, using the old Hippocratian term in preference to "estivo-autumnal" now in common use. He reviews the phenomena of the paroxysm and describes the parasites—the hemameba vivax of tertian fever, the hemameba malariæ of quartan fever, the hemomenas Laverani of semi-tertian fever, and mentions the somewhat uncertain parasite of quotidian of which our knowledge is still very imperfect. In practice the cases that come under observation are often complicated. We have multiple groups of some species; we have the simple, double, triple or irregular or subcontinuous quartan fever; the simple, double or irregular tertian, and in the semi-tertian and quotidian fevers we have also a multiplicity of parasites so that it is usually difficult to account for the irregular types of fever which may thus arise. Mixed infection with parasites of two or more types are frequently observed, the tertian and quartan for example or the tertian and quartan and semi-tertian. Any other disease may complicate malaria, among them cholera, blackwater fever, siriasis, tuberculosis, etc. Pneumonia is the complication which has given rise to the most discussion, but we now know positively that there is no malarial pneumonia. Malaria may co-exist with typhoid and the semi-tertian form may be strikingly similar to it in its symptoms. In the temperate climates this type of malaria usually occurs at the same season of the year and may come on without chills, the remissions may be slight, there may be great prostration and abdominal symptoms and no parasites found in the peripheral circulation. Typhoid fever has frequently been mistaken for semi-tertian fever. The pernicious attack is an unusually severe attack of the semi-tertian caused by a multiplication of parasites, which accumulate within the capillaries of the brain and meninges and other internal organs. The pernicious is never the first attack and is most frequent in recent affections. The symptoms vary with the localization of the parasite and the resisting powers of the individual. Blackwater fever is discussed by the author at some length, its geographical distribution described, and the various alleged discoveries of its causes—which he does not consider proven—its seasonable prevalence, the predisposing causes, etc. The various theories of its origin are discussed and Sambon evidently does not consider it proven that it has a direct connection with malaria. The quinin theory he rejects, and his own view that it is a specific disease is based somewhat upon the similarity of hemoglobinuric fever of cattle in which Smith and Kilborne have discovered a protozoal parasite, the Piroplasma bigeminum, hence it is quite reasonable to infer that blackwater fever may be due to some protozoan organism. Diagnosis from the semi-tertian is usually not difficult, and in the early stages the presence of characteristic parasites is demonstrative. From yellow fever it is distinguished by the rarity of black vomit, the color of the urine in the early stages and the absence of serum albumin, enlargement of the spleen and liver and its irregular course. A sound prophylaxis can not be established without the knowledge of the cause of the disease, and further study is required. With our present knowledge we can also recommend in a general way the avoidance of low, swampy districts, especially during the hot season after the rains, and protection against mosquito bites. Quinin, he thinks, has no specific action, and in most cases seems injurious. There is no one drug that is of the slightest value. The disease must be treated symptomatically until laboratory experiments have found the specific treatment. We are at present in the same condition in regard to typhoid fever and other infectious disorders. He prefers colonic irrigations to calomel. The patient should be allowed to drink freely, and the food should be liquid; the patient confined to his bed until convalescence is well established. Warm alkaline drinks must be used as an emetic to help to get rid of the great quantity of irritating bile which causes the exhaustive vomiting. When this is persistent, water and food should be administered by the rectum. Sponging with tepid water is advised and as little disturbance as possible. Hot fomentations and turpentine stupes may be applied to the loins to alleviate pain and urinary suppression. Gouzien has employed hypodermic injections of normal salt solution with great success.

The Genus Anopheles. Ernest E. Austen.—The characteristics of the different genera of mosquitoes are described by the author, and the practical characteristics of the Anopheles discussed. They are the long palpi, as long or longer than the proboscis in both sexes, the blotches on the wings, the peculiar position of the proboscis, it being in the same straight line when resting, a more slender form than the Culex and, in some specimens at least, the characteristic position when resting—inclining the body at a considerable angle from the surface. The real characteristic, however, in this is the position of Culex, which is hump-backed, the proboscis at a decided angle with the body, while in Anopheles they are both in the same line. When the Anopheles rests with the body parallel to the surface it is generally found that one of the legs is missing. The piping note of Anopheles also is said to be lower than that of Culex. The position of the larva in water is also another characteristic, it usually being parallel to the surface; that of Culex is nearly perpendicular. The Culex breeds in all sorts of places—in buckets, tubs, cisterns—but Anopheles prefers natural pools, generally with some vegetation such as algæ, etc. It may breed in sea water. The eggs of Anopheles are found singly on their side instead of being collected as are those of Culex. The number of species of Anopheles at present known is about forty and there are more than ten others that will shortly be described. The genus is found all over the world, though there is no species so generally distributed as is the case with certain species of Culex, which is possibly due to the fact that the latter, breeding in ponds, water tanks, domestic receptacles, is carried by human agency while Anopheles being the wilder and less domestic insect is more restricted.

Annales de l'Institut Pasteur (Paris), February.

Parasitic Theories in Regard to Malignant Neoplasms. A. Borrel.—The research that has been made in this line is reviewed by Borrel, who observes that possibly there may be several kinds of malignant neoplasms, some due to sporozoa, some to bacteria, others to blastomycetes, etc. The evidence to date is not conclusive in respect to any of the theories that have been advanced. He publishes illustrations showing the progress of certain changes in the cells of these neoplasms which he has observed and followed. They commence with vacuolization and the results of the process deceptively simulate parasitic elements and are possibly the supposed micro-organisms seen by other scientists. He gives comparative cuts showing the close relationship between the process and its results with the process of the evolution of the spermatocyte in the testicle of the guinea-pig. In the latter, the evolution results in the formation of a normal element. In the cancer cell the cause and the result of the process are still a mystery, but the results are large chromatic bodies, producing the impression of a degenerating substance. This atypical evolution of the archoplasm or idiosome of the cancer cell must be borne in mind in the researches for the discovery of the causal agent of cancer.

Origin of Alexins in Normal Serum. O. Gengou.—Metchnikoff believes that the alexin of the leucocytes is liberated only after the degeneration or death of the corpuscle. Büchner, on the other hand, considers it an actual, vital secretion of the leucocytes. Gengou describes research which shows that the alexin in the dog and rabbit is found almost exclusively in the polynuclear leucocytes.

Bulletin de la Societe des Hopitaux de Paris, February 7.

Grippal Meningitis. H. Renou.—The author describes a case diagnosed first from the symptoms, as gastric disturbances, then as an infectious rhinopharyngitis with joint symptoms, but the fifth day disclosed a typical cerebrospinal meningitis complicated by indications of diffuse poliomyelitis. The patient recovered under hot baths, revulsion along the spine and early lumbar puncture.

February 14.

Diagnosis of Typhoid Perforation. Ferrier.—The conclusions drawn by Ferrier, from observation of three cases of typhoid perforation, one of which was cured by surgical operation, are as follows: The diagnosis in certain cases can be made only when the patient is able to describe his sensations. The characteristic facies, the agitation, sensitiveness of the abdomen, meteorism and vomiting are often entirely absent. Possibly only a few attenuated symptoms bearing the imprint of peritoneal inflammation may be observed. The spontaneous pains felt by the patient may be moderate. Localized at first, they may extend later throughout the abdomen, and increase under the influence of movements, coughing, or palpation. As the process extends, indications of defense may be noted in the abdomen. In doubtful cases, rectal palpation and the appearance of bladder symptoms may reveal the involvement of the small pelvis. In subjects previously affected with diarrhea, the suppression of alvine discharges is an important sign, also lower temperature with more rapid pulse. In the successful case, the perforation was found on the small intestine 50 cm. from its insertion in the cecum. It was in the center of a blackish, thickened zone, the size of a two-franc piece. It was obliterated with a purse-string suture and a few Lembert stitches; the peritoneum was irrigated with a solution of boric acid and hot salt solution, and the wound was drained. The operation was completed in forty minutes. The bed was warmed, and artificial serum was injected every four hours. Recovery was undisturbed, except for an obstinate hiccough, day and night for several days.

February 21.

Treatment of Syphilis During Pregnancy. Gaucher.—The prognosis of a pregnancy in a well-treated syphilitic is not so serious as some imagine. The treatment of a syphilitic pregnant woman should consist, according to Gaucher, in an alternating and uninterrupted series of injections of benzoate of mercury and sublimate pills; the number of injections about double that of the pills. For instance, injections for one month of the benzoate in the following formula: benzoate of mercury 60 cg.; benzoate of ammonium 3 gm.; benzoate of cocain 15 cg., and water 60 c.c. A few drops of ammonia are added while hot, to insure the limpidity of the solution. The daily dose is 2 c. c. for one month, substituted then by two pills a day at meals, each containing bichlorid of mercury and extract of opium each 1 cg. and q. s. of pulverized medicinal soap and glycerin. The pills are given for fifteen or twenty days and then all treatment is suspended for ten to fifteen days, when the benzoate is recommenced. The intensity of the treatment should be subordinated to the condition of the renal function, as determined by the toxicity of the urine and the elimination of the mercury. This treatment should be continued until the end of the pregnancy, and the child is usually free from any taint of syphilis. In one young woman, 72 gm. of albumin to the liter were noted, but this condition was speedily corrected by the specific treatment. Instances are numerous in which a secondary nephritis retrogressed under mercurial treatment during pregnancy. Comby does not give potassium iodid to children with inherited syphilis until the third year, preferring mercury alone for the first two years. In several years of experience with this method, Gaucher has always had the pregnancy progress to term. The earlier this treatment is begun after conception or after infection, the more certain are the results for the welfare of the fetus. Pregnant women seem to have a peculiar tolerance for mercury. In case of albuminuria, the tannate of mercury may be used at first, gradually increasing the dose and resorting to the benzoate as constant supervision shows that the permeability of the kidneys is returning to normal.

February 28.

Treatment of Pneumonia with Antidiphtheria Serum. Ch. Talamon.—Fifty patients with pneumonia were treated at the Bichat hospital with antidiphtheria serum. The mortality the year before had been, for persons under 50 years of age, 23.4 per cent., and above 50 years, 60.7 per cent. During 1900, when antidiphtheria serum was being used, the mortality under the age of 50 was 8.3 per cent., and over 50, it was 28.5 per cent. All but 8 of the 50 were addicted to the immoderate use of alcohol; 37 were men. Considered from all points of view, Talamon asserts that this treatment evidently abbreviates the duration of the disease, suppresses or reduces the chances of complications and reduces the mortality by at least 10 per cent. It failed only once on the 25 patients who were treated with the serum before the fifth day, and this was in a woman of 72. Examination of the fatal cases shows good reasons in existing complications or excessive alcoholism for the failure to cure. Almost all the patients above 40 had arteriosclerosis. In case of kidney disease, caution is necessary, but otherwise the injections may be progressively increased. He injected as much as 200 to 260 c.c. in a few days in some cases, and noted no bad effects except a slight exanthem in a few. Two or three injections of 20 c.c. of the serum are usually sufficient in patients under 50, and four or five over this age. One injection may prove sufficient in some cases, while others may require six or seven.

March 14.

Otitis and Cerebrospinal Meningitis. Vaquez.—Besides the meningitis that develops locally from direct communication with a focus in the ear, Vaquez and Lermoyez have observed cases and three are described in detail, in which an old, chronic otitis seemed to have been the origin of a generalized cerebrospinal meningitis—a remote infection in which the spinal predominated over the cerebral symptoms.

Centralblatt f. Chirurgie (Leipsic), March 9.

Treatment of Severe Scoliosis. P. Bade.—During the months that a child is wearing a plaster cast, he or she is constantly growing and usually loses more or less flesh during the treatment. The cast is not adjusted to conform to these changing conditions, and consequently the pressure on the hump and the extension are constantly diminishing. Bade remedies this by applying to the cast the principle of Schede's extension apparatus for spondylitis. This enables the extension to be adjusted as required. The pressure on the hump is regulated to correspond, by two plates which together form a pad, inside the cast, over the hump. One fits on the hump, the other against the inner surface of the cast, and a screw connects them and projects externally through the cast. By turning this screw the pressure on the hump can be increased or diminished at will.

Suture Bolts for Median Cicatricial Hernia. A. Hammesfahr.—A woman had been operated on eight times, on account of recurring hernia in the cicatrix left from a median laparotomy for ileus in 1894. The recti kept opening outward. Hammesfahr isolated the recti throughout their entire length—both the upper and under surfaces—and with a nearly blunt needle and strong wire, commenced at the outer margin of one and took a series of stitches horizontally across to the outer margin of the other rectus, leaving a short space each side of the inner margins, with the wire on the outside. Both ends of the wire were also brought up outside and twisted together at the median line. By this arrangement every effort of the recti meets this double wire on the outside and is effectively kept under control. He applied the wires at intervals of 3 or 4 cm., from the symphysis to the ensiform process, and the patient was completely cured of the tendency to hernia. He thinks that two of these suture-bolts would be sufficient in ordinary cases. The peritoneum was not opened.

March 16.

Study of Roentgen Plates. K. Ludloff.—This communication states that details are brought out more plainly in a Roentgen plate if it is placed over a translucent plate set in the side of a box containing electric lights and reflectors to throw the light on the plate, the room being otherwise dark. Remarkable relief is obtained if it is viewed through an opera or large magnifying glass.

Improved Technique of Ether Narcosis. W. Reinhard.—By injecting atropin forty-five to sixty minutes before an ether narcosis, the secretion of mucus and saliva is reduced to the minimum. Reinhard prefers to combine it with morphin or codein as follows: atropin sulph., 1 cg.; morphin muriat., 20 cg.; aq. dest., 10 gm. One-half to a whole syringeful is injected subcutaneously. The morphin prevents any possible by-effects of the atropin, and the action of the latter on the heart and respiration center in the medulla contributes materially to the success of the narcosis.

Benzin in Surgery. F. Franke.—The odor of ether is distasteful to certain persons, and its high price renders a cheaper substitute desirable. Franke states that for many purposes, such as cleansing the field for operating, removing plasters, dissolving salves, etc., benzin is fully equal to ether, while it does not cool the skin to such an extent. Several years' use of it has convinced Franke that for many purposes it is an effective and even a preferable substitute for ether.

Dermatologische Zeitschrift* (Berlin), February.

Severe Mercurial Exanthem. A. Berliner.—A healthy woman, 42 years of age, began to complain of headaches, and when, a few weeks later, a papulous exanthem appeared on the trunk, her physician ordered mercurial inunctions. She used 30 gm. of gray ointment in ten days. An eruption came on the legs after the first inunctions and extended over the entire body and the mucous membrane of the mouth after the mercury was discontinued. There were no indications of lues. In a few weeks the entire body was discolored by minute petechiae, making the patient look like a negro; the skin was swollen and there was much desquamation, with patches of pemphigus blisters, constantly bursting and discharging, with a fetid odor. The patient was placed in the continuous bath, but symptoms of pneumonia developing, with diminishing pulse and apathy, she was replaced in bed and the temperature raised by the constant application of a mechanical sweat-inducing apparatus. The discoloration persisted when she was dismissed, still looking like a mulatto, and patches of pigmentation remained a year later on breast and back. Pyogenic infection through the blisters was probably the cause of the septicemic symptoms, especially of the capillary hemorrhages. No mercury was found in the urine at any time.

Deutsche Med. Wochenschrift (Leipsic), March 14.

Biologic Proof of Derivation of Albumin in Nephritic Urine from the Blood. V. E. Mertens.—The specific turbidity produced in diluted blood by serum from a prepared rabbit is evidently due to the albumin in the blood. The same specific cloudiness is also induced in nephritic urine. Mertens accepts this fact as proof that the albumin in the urine in these conditions is derived from the blood. Control tests with animals treated with nephritic urine instead of blood, produced the reaction in the same way. Mertens also calls attention to the fact that the serum of young rabbits of a litter born after the rabbit had been prepared with the preliminary injections, also induced the specific reaction the same as the serum of the mother animal.

Destruction of Tubercle Bacilli in Fats. A. Gottstein and H. Michaelis.—Oils and fats aid in dissolving the waxy envelope of the tubercle bacillus, and consequently these substances are sterilized with comparatively little heat. A number of tests are reported in which five minutes at 87 C. completely sterilized the oil, margarin, etc., tested.

Lipochromes in the Ganglion Cells in Man and Animals. M. Rothmann.—Lipochromes appear in the ganglion cells in man about the eighth year, and become more and more numerous with advancing age. They have never been found in animals, but Rothmann shows that this has been due to the fact that the animals examined were all under the age of 8 years. He has succeeded in finding them in horses, monkeys and a dog, corresponding in every respect to those of the same actual, not relative age in man.

Multiform Erythema with Exudation After Chemical Irritation of Urethra. J. Heller.—Five cases of erythema following chemical irritation of the urethra are described. In one, a healthy man with remote gonorrheal antecedents, the irritation was caused by a transient contact with 20 per cent. solution of creolin. A purulent urethritis followed with an affection of the joints. A typical erythema with exudation appeared when the urethritis was at its height and paralleled it in its course, vanishing with the cessation of the discharge from the urethra. The chemical irritation probably causes a serous exudation from the mucous membrane. The absorption of this serous fluid then leads to autointoxication in predisposed individuals, and in the course of twelve to forty-eight hours, to the multiform erythema. This assumption would explain Still's twenty-six cases of enema rash, in which the erythema appeared twelve to forty-eight hours after a soap enema. The soap must have acted as a chemical irritant.

Genesis of Mastitis Adolescentium. E. Franck.—During the last eight years Franck has had two patients, one 15 and the other 16 years of age, with mastitis adolescentium. The breast was hard and sensitive, and resembled the case described by Adler, noticed in The Journal of February 23, p. 533. He does not accept Adler's explanation of the cause, as he found that the mastitis coincided in each of his patients with excessive masturbation, and was probably the result of this intense stimulation of the genital sphere. He limited treatment to a mild salve, and moral suasion to put an end to the masturbation. As the latter was suspended the mastitis retrogressed. He has also noted in other patients who confessed to excessive masturbation, that one or both of the breasts were more or less sensitive to pressure.

Vaginal Hysterolysis. Steffeck.—By this term Steffeck describes his method of treating pathologic fixation of the uterus, which he has been following with constant success since 1894. The uterus is detached from its posterior adhesions through a posterior colpotomy, and then from the anterior through an anterior colpotomy, concluding with vaginofixation of the organ. The method applies only to directly adherent uteri. Laparotomy is preferable for adhesions from large tumors in the adnexa. He concludes with the statement that on reviewing Landau's record of 200 radical operations he can find only two or three of the cases that might not have been treated by this conservative vaginal hysterolysis. He is surprised that the "authorities have not interfered long ago to put an end to such polypragmaty."

Application of the Uranium Rays to Enhance the Effect of the X-Rays. E. Grunmach.—A screen of fine linen is impregnated with a solution of uranium—the source of the Becquerel rays—and suspended between the vacuum tube and the subject at a point where the X-ray must pass through it. The shadows cast on the fluoroscope are much clearer and more distinct, and the contrasts are sharper than by any other technique. The finished actinograms are likewise exceptionally distinct, even with obese subjects.

March 21.

Surgery of the Stomach. W. Koerte.—Almost all the patients who have been operated on for ulcer have been permanently restored to their normal activity. There is not much danger of recurrence from persisting hyperacidity, according to the experiences to date. We must bear in mind, Koerte adds, that surgical intervention in these cases is not directed so much against the ulcer as against its consequences. The greatest reserve is indicated in case of nervous constriction of the pylorus as these gastric neuroses may resist even surgical intervention. Frequent small hemorrhages from the stomach may indicate an operation, but in cases of extensive, threatening hemorrhage, surgical intervention is the last resort. Perigastritic adhesions and perforations of the stomach require operation, the latter within twelve hours. A few patients recover and those who do not were doomed in any event. Dilatation of the stomach from cicatricial stenosis of the pylorus is generally recognized as incurable by medical means. The results of operation have been so good that it should be more extensively practiced, although there is always a liability of post-operative pneumonia, hemorrhage or embolism. In the 38 operations on account of ulcer and its consequences, which Koerte has performed, the ages ranged from 16 to 61; 28 were more than 30 years old. The first symptoms of the ulcer dated from twenty to thirty years previously in a number, and in only 3 from less than a year. Pains and vomiting were constant symptoms; hematemesis or bloody stools were noted in 18 cases; the stenosis was not accompanied by dilatation in the 3 younger patients. In 4 there was considerable gastroptosis. The constriction was usually in the pylorus, once in the upper duodenum, five times in the prepyloric region and twice in the middle of the stomach. The stenosis frequently simulated a tumor and suggested carcinoma. Extensive adhesion of surfaces was noticed in many cases, and also the spread of the ulcer to the pancreas or liver. Hydrochloric acid was increased in amount in 24 cases, absent in 4, traces were found in 3, and lactic acid in 4. Only with the microscope was it possible to differentiate ulcer from carcinoma in a number of instances. Perforation into the abdominal cavity was found in 10, and into the subphrenic space in 6 instances. Resection is possible only in favorable, well-isolated stenoses or ulcers, or on suspicion of carcinoma. It makes greater demands on the strength, but is always preferable under favorable conditions. Circular resection was done 5 times, with 4 recoveries and 1 death. The segmentary resection of an approaching perforation of the anterior wall was done with success in one case. Gastroenterostomy is the normal method in case of stenosis of the pylorus. The mortality was 20.6 per cent. in 28 cases. Another patient died from pericarditis after a complicated operation which included removal of a stenosis of the esophagus. Hacker's technique was constantly followed, no button used, merely a continuous suture in two tiers. Death occurred in two cases from collapse during the operation, once from pneumonia, twice from subsequent hemorrhage from the ulcer and once from a phlegmon in the stomach wall. In one case a peptic ulcer of the jejunum occurred three years after the gastroenterostomy, causing death from perforation. Recent examination of the cured patients showed that they had all been extraordinarily improved from the nutritional point of view and the working capacity was fully restored, although a few still had occasional gastric disturbances. Plastic operation on the pylorus was done but once; the patient recovered. One patient was operated on to arrest extensive and threatening hemorrhage. The operation was extremely difficult, but the hemorrhage was arrested by enclosing the bleeding point in a suture. All went well for a week, when the threads cut through and the patient succumbed to a fresh hemorrhage from the splenic artery. In one case, a young man first noticed symptoms of gastric disturbance three weeks previously. There was absolute motor and secretory insufficiency. Even fluids were not absorbed and could be pumped out unaltered in three or four hours. There was no hydrochloric acid, pepsin nor rennet, but a little lactic acid was evident a few hours after eating. The stomach was scarcely dilated at all, which spoke against atony. On operating, perigastric adhesions were found and the pylorus felt hard and cartilaginous. After gastroenterostomy the patient rapidly recovered his strength and gained twenty pounds in a few weeks.

Differentiation of Stenosis of the Pylorus. Boas.—Many cases that offer apparently the clinical picture of organic stenosis of the pylorus, yield in a week or two to appropriate medical treatment, lavage of the stomach and dietetic measures. These results prove that the stenosis was spastic instead of organic, and Boas confirms the folly of attempting to operate on such cases. They recover with merely moderate atony remaining. In some cases there may be a relative stenosis, and it is difficult to differentiate these from the condition known as a simple atony. This slight stenosis of the pylorus is much more frequent than had been supposed until recently. There is one sign of slight stenosis which Boas has never known to fail. This consists in a tonic contraction of the fundus wall when the stomach is full, similar to the rigidity noted in the intestine in case of stenosis. Gently massaging the fundus causes a tonic contraction of the fundus wall, which then relaxes and stiffens again under the fingers. The other clinical signs in such cases may indicate merely atony or gastric insufficiency, but this intermittent rigidity of the fundus wall speaks for slight stenosis of the pylorus.

Experimental Research on the Compensation of Sensory Ataxia. A. Bickel.—The benefit to be derived from systematic gymnastic exercises in tabes dorsalis is now generally recognized, and Bickel reports a number of experiments which throw some light on the mechanism of compensation. The sensory nerves of both hind legs were divided in dogs. In a few months the ataxia induced by this measure had become fully compensated. Both labyrinths were then extirpated and the ataxia returned as severely as before, and the compensation was never again complete. Extirpation of the labyrinths is never followed by ataxia, under other conditions. In other experiments, after compensation of the ataxia induced by dividing the sensory nerves of both hind legs, a portion of the cortical sensory-motor zone was removed and in this case also the sensory ataxia recurred. These experiences demonstrate that the compensation of the ataxia is not the result of a process of restitution in the limbs whose sensory nerves have been severed, but is due to other organs, especially to the labyrinths and the cortical motor zone. Further research may reveal other portions of the nervous system which co-operate in the production of the compensation, possibly the thalamus opticus the corpora quadrigemina and cerebellum. Experiments in this line are now in progress.

Neutral Stain for Fats. L. Michaelis.—A neutral stain can be derived from azobenzol, which has a peculiar affinity for fats. Analysis of this group of stains shows the close connection between the composition and the staining properties. The most useful representative of this group of neutral stains is scarlet R, which stains every fat and fat alone. The best proportion is a saturated solution in 70 per cent. alcohol.

Mitteilungen a. d. Grengeb. der Med. u. Chir. (Jena) VII, 4 and 5.

Appendicitis as Consequence of a General Disease. C. Adrian.—Experimental evidence is presented to prove that the appendix shares with the tonsils, the joints, the lymph-glands and the cavities lined with serous membrane, the faculty of attracting bacterial invasion when micro-organisms are circulating in the blood. Attempts to induce inflammation in the appendix by local injections were unsuccessful, but infection of the blood became macroscopically localized in the appendix before any other organs or section of the intestines showed indications of bacterial action, except possibly the saccule of the vestibule in rabbits. There is undoubtedly in man a connection between ordinary tonsillitis, joint affections and appendicitis. The tonsils or the appendix may be the starting-point of an acute articular rheumatism, or an appendicitis may follow a joint affection, which in turn can be traced to a tonsillitis.

Obliteration of the Portal Vein. F. Umber.—The patient in the case described was a hard drinker who had always been in good health until two months before his death, when symptoms of congestion in the portal domain developed, with hemorrhages from the alimentary canal and recurring ascites. The autopsy disclosed that the liver was sound, but the lumen of the main portal vein had evidently been obliterated for years. Nature had compensated this obliteration as Talma has accomplished artificially, by establishing extensive collateral circulation. There were adhesions between the omentum, liver, kidney, spleen, intestines and abdominal wall, also between the diaphragm, stomach and liver, etc. This complete compensation of the obliterated vein had kept the liver normal and maintained robust health without disturbance for many years. Umber concludes that puncture may prove sufficient in case of obliteration of the portal veins, and that the establishment of collateral circulation may be left to Nature.

Maintenance of Tendon Reflexes After Division of Spinal Cord. Kausch.—In laminectomy on a young woman, for a tubercular affection of the vertebræ, the spinal cord was completely divided transversely at the sixth to eighth dorsal vertebræ. The tendon reflexes and muscle tonus were at once completely abolished, but returned again, the former in twenty-four hours and the latter in forty-eight hours, and persisted afterward unmodified. The patient lived five and one-half months; menstruation was normal.

Muenchener Medicinische Wochenschrift, March 19.

Experimental Research on Disinfection of the Hands. T. Paul and O. Sarwey.—In the sixth communication on this subject, from the Tübingen clinic, the writers show that any addition to a solution of sublimate which facilitates precipitation diminishes the disinfecting power. They also deplore the contradictory statements of other writers in regard to disinfection of the hands. *Ahlfeld*, for instance, is convinced that the hot water and alcohol technique affords ample disinfection and that every puerperal affection that appears afterward is of necessity autogenetic. C. L. Schleich trusts so implicitly to the disinfecting power of his marble-dust soap that his professional conscience does not prohibit septic and aseptic operations in varying sequences. The writers state: "We are of the opposite opinion, as any one would be who had witnessed our experiments."

Improved Technique of Manipulative Correction of Luxation of the Hip-Joint. Schlesinger.—In severe cases of congenital luxation of the hip-joint so much strength is required to restore the parts to normal position that injury frequently results. This can be entirely avoided by applying a plaster cast. The joint is manipulated and the correction that can be obtained without force is maintained by applying a plaster cast at once. This is removed in three or four days and further correction attempted. It is usually found that the luxation can be completely reduced at the second attempt, but if not, the further correction attained is maintained by a plaster cast applied for a few days more. Success has always invariably crowned the third attempt. Four of the five patients described were between 7 and 14 years of age.

Giornale Accad. di Med. di Turin., January.

Pathogenesis of Aneurysms. A. Fabris.—From a series of experimental researches conducted by Fabris, the conclusion seems evident that morbid processes on a basis of degenerative and inflammatory changes are much more important factors in the pathogenesis of aneurysms than are the mechanical or traumatic. The laceration of the elastic fibers from a traumatism may enlarge the lumen of the vessel, but restitution proceeds rapidly and each of the coats of the artery becomes regenerated in time, with possibly more or less hypertrophy of the media. The permanent substitution of fibrous tissue after a morbid inflammatory or degenerative process prevents reduction of the lumen, which is thus left permanently and progressively dilated.

February.

Traumatic Tabes Dorsalis. C. Negro.—A teacher of gymnastics fell from the parallel bars, on his side, without hitting his head or spine directly. Paresis of the deltoid ensued, but yielded to massage. About four months after the traumatism, typical tabes dorsalis gradually developed. No symptoms of the kind had been noticed before the traumatism and there were no indications of syphilis or of any other infection.

Santonin in the Fulgurant Pains of Tabes. C. Negro.—The specific action of santonin on the eye—xanthopsia—suggested to Negro that santonin might have a specific action on the general sensibility and temporarily modify the function of the nervous system. He therefore administered it in a severe case of fulgurant pains in tabes, rebellious to other measures. The pains diminished three hours after the first dose and subsided completely two hours after the second, and did not reappear for twelve or thirteen days. The same experience followed its use again, but this time the pains did not reappear for sixteen days. The results were equally satisfactory in 8 out of 11 other patients to whom he administered the santonin, in doses of 10 cg. followed by 5 cg. five hours later. Two were only transiently benefited and one did not take the full amount. He did not venture to repeat this treatment more than four or five times in the course of two or three months. He is now testing it in neuralgia.

Electrolysis as a Means of Determining the Power of Resistance of the Red Corpuscles. E. Buffa.—By means of the hemolysimeter devised by Buffa, he is able to determine the resisting power of the red corpuscles in less time than by other methods—from twelve to fifteen minutes being all that is necessary. He determines the number of corpuscles in the blood before and after electrolysis with a current of 4.5 milliampères.

Queries and Minor Notes.

STATES RECOGNIZING DIPLOMAS.

Bridgeport, Conn., March 28, 1901.

To the Editor:—I will be greatly obliged to you for a list of the states which recognize a diploma from a reputable medical college, as sufficient to practice medicine therein. H. W. F.

Ans.—Arkansas, Colorado, Kentucky, Michigan, Nebraska, Nevada, Rhode Island, South Dakota, Wisconsin, Wyoming, Oklahoma and New Mexico. Alaska has no medical regulations whatever. Indiana, Missouri, Kansas, and possibly California and one or two other states have recently passed laws requiring examination; previously a properly certified diploma was sufficient. We do not know how soon these new laws go into effect, possibly not before July. Texas has also passed a new law requiring examination by a state board, which, however, has not yet gone into effect.

PRACTICE IN ILLINOIS—INDIAN AGENCY.

Dover, Ky., April 1, 1901.

To the Editor:—1. Will you give me the laws regulating the practice of medicine in Illinois and Michigan? 2. What procedure and qualifications are necessary to secure an appointment as agency or post physician at one of the Indian or government agencies? R. A. B.

Ans.—1. In Illinois an examination is required on presentation of a satisfactory diploma. In Michigan, license to practice is given on presentation of a diploma from an institution recognized by the State Medical Examining Board. Only some thirty or forty institutions, thus far, have been placed on the list of those whose graduates are exempted from examination. 2. Write to the Commissioner of Indian Affairs, Washington, D. C.

PRACTICE IN PENNSYLVANIA.

Onaway, Mich., April 2, 1901.

To the Editor:—Kindly inform me as to the requirements for practice in Pennsylvania; also whether the certificate of the Michigan state board is recognized. R. D. H.

Ans.—The requirements for practice in Pennsylvania are a certain degree of preliminary education, including the ordinary high school branches, presentation of a diploma satisfactory to the examining board and the passing of an examination. Pennsylvania does not recognize the Michigan certificates as the latter state does not require an examination in all cases as a qualification for practice.

PRACTICE IN BRITISH COLUMBIA.

Everett, Mass.

To the Editor—Can you inform me as to the requirements necessary to obtain a license to practice medicine in British Columbia, and to whom I would apply for particulars?

Ans.—British licentiates are permitted to practice medicine in the province of British Columbia; all others must take the prescribed examinations. The fee is $100. Full particulars can be obtained from the registrar of the College of Physicians and Surgeons, Victoria, B. C.

CITY SEWERAGE.

Janesville, Wis., March 29, 1901.

To the Editor:—Kindly inform me where I can find articles or papers on "Why a City Should Have Sewerage," or the question of city sewerage. J. M.

Ans.—See articles on Habitations, in general works on hygiene, Buck, Murphy and Stephenson, Notter, Harrington, and others. Works on sanitary engineering give accepted views as to sewerage installations in cities.

CARE OF IDIOTS.

Racine, Wis., April 3, 1901.

To the Editor:—Could you give me information regarding schools for idiots, located in Chicago's vicinity? Do the state schools receive pay patients, and would they give them extra care, etc., in consequence? If you are unable to give me the desired information, could you direct me to the proper source for it? H. E. J.

Ans.—We know of but one school for idiots near Chicago, and that is the one conducted by Miss Stryker, Wheaton, Ill. The Illinois Asylum for Feeble-Minded Children, at Lincoln, receives only state patients, and this is the case in most of the western states. Patients outside of the state, if there is room for them, are sometimes received for pay, but the institutions are generally quite full. We do not know about special care given to pay patients. An inquiry addressed to the various secretaries of the state boards of charities would doubtless give the desired information.

The Public Service.

Army Changes.

Movements of Army Medical Officers in accordance with orders from the Adjutant-General's Office, Washington, D. C., March 21 to 27, 1901, inclusive:

Ira A. Allen, captain and asst.-surgeon, Vols., leave of absence granted.

Cosam J. Bartlett, acting asst.-surgeon, from the Department of Alaska to San Francisco, Cal., for duty in the Department of California.

Shadworth O. Beasley, major and surgeon, Vols., recently appointed, from San Francisco, Cal., to Manila, P. I., for duty in the Division of the Philippines.

Edward G. Beeson, captain and asst.-surgeon, 39th Infantry, Vols., having tendered his resignation, is honorably discharged from the service of the United States, to take effect March 31, 1901.

William D. Crosby, major and surgeon, U. S. A., in addition to his present duties, will relieve Major H. S. Kilbourne, surgeon U. S. A., of his duties as medical superintendent of the army transport service in New York City, N. Y.

Joseph J. Curry, captain and asst.-surgeon, Vols., leave of absence extended.

Calvin DeWitt, lieut.-col., deputy surgeon-general, U. S. A., from sick leave to duty as a member of the board of medical officers now in session at the Army Medical Museum, Washington, D. C., for the examination of candidates for admission into the Medical Corps of the Army, relieving Col. A. A. Woodhull, assistant surgeon-general, U. S. A.

Joseph C. Garlington, acting asst.-surgeon, from Fort Mott, N. J., to duty at Fort Terry, N. Y.

John J. Gilhuley, acting asst.-surgeon, from Fort Terry, N. Y., to Bridgeport, Conn., for annulment of contract.

Charles W. Hack, captain and asst.-surgeon, Vols., member of a board at Columbus Barracks, Ohio, to examine officers of the army for promotion, subsequently ordered to duty with recruits en route from Columbus Barracks, Ohio, to San Francisco, Cal., and thence to Manila, P. I., for assignment in the Division of the Philippines.

George L. Hicks, Jr., captain and asst.-surgeon, Vols., recently promoted, from lieutenant and asst.-surgeon, 38th Infantry, Vols., is assigned to that regiment.

Henry S. Kilbourne, major and surgeon, U. S. A., from New York City, N. Y., to duty at the Presidio of San Francisco, Cal.

Julius C. Le Hardy, acting asst.-surgeon, from Savannah, Ga., to duty at Fort Wood, N. Y.

Thomas C. Longino, captain and asst.-surgeon, Vols., recently appointed, from Fort Clark, Tex., to accompany troops via San Francisco, Cal., to Manila, P. I., and for assignment in the Division of the Philippines.

Edward W. Pinkham, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., reporting, on arrival, by telegraph to the adjutant-general of the army for instructions.

Joseph C. Reifsnider, captain and asst.-surgeon, Vols., recently appointed from West Point, N. Y., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Samuel L. Steer, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., reporting on arrival, by telegraph, to the adjutant-general of the army for instructions.

William T. Tanner, captain and asst.-surgeon, Vols., recently appointed, from Fort Wadsworth, N. Y., to accompany the 3d Battalion, 11th Infantry, to Manila, P. I., reporting on arrival for assignment in the Division of the Philippines.

William R. Van Tuyl, captain and asst.-surgeon, Vols., recently appointed, from Fort Thomas, Ky., to San Francisco, Cal., en route for duty in the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending March 30, 1901:

Asst.-Surgeon R. F. Ledbetter, detached from the *Constellation*, April 1, and ordered to the *Chicago*, via the *Dixie*, April 3, as relief of Asst.-Surgeon J. R. Whiting.

Asst.-Surgeon C. A. Crawford, detached from the *Dixie*, March 28, and ordered to the *Constellation*, April 1, as relief of Asst.-Surgeon R. E. Ledbetter.

Asst.-Surgeon J. R. Whiting, detached from the *Chicago*, upon reporting of relief, and ordered to the *Dixie*.

Surgeon G. Pickrell, detached from the Naval Hospital, Mare Island, Cal., and ordered home.

Asst.-Surgeon E. Davis, detached from the Naval Hospital, Mare Island, Cal., with permission to delay en route home.

Asst.-Surgeon R. K. McClanahan, ordered to the Asiatic Station, via the *Solace*, April 12.

Surgeon C. J. Decker, order detaching from the *Monocacy* and ordering to the *Oregon*, revoked; ordered to the *Newark*.

Surgeon P. Leach, order detaching from the *Oregon* and ordering to the *Monocacy* revoked.

Surgeon C. T. Hibbett, detached from the *Newark* and ordered to the Naval Hospital, Cavite, P. I.

P. A. Surgeon R. Spear, detached from the *Isla de Luzon*, and ordered to the *Concord*.

P. A. Surgeon S. G. Evans, detached from the *Concord* and ordered to the *Monocacy*.

Asst.-Surgeon E. J. Grow, detached from the *Glacier* and ordered to the *Isla de Luzon*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 14 days ended March 28, 1901:

Surgeon R. D. Murray, granted leave of absence for five days from April 9, 1901.

Surgeon H. W. Austin, detailed as chairman of a board, to be convened from time to time as necessary, for the purpose of re-examining rejected immigrants.

P. A. Surgeon J. M. Eager, upon expiration of leave of absence to proceed to Naples, Italy, for duty, relieving Asst.-Surgeon V. G. Heiser.

Asst.-Surgeon H. S. Mathewson, granted leave of absence for three days from March 27, 1901. To rejoin station at San Juan, Porto Rico. March 27, 1901.

Asst.-Surgeon Taliaferro Clark, granted leave of absence for thirty days on account of sickness.

Asst.-Surgeon C. H. Lavinder, granted leave of absence for ten days from March 28, 1901.

Asst.-Surgeon John McMullen, upon being relieved from duty at Wilmington, N. C., to proceed to the Mullet Key Detention Camp, Florida, and assume command. To report at Washington, D. C., en route to Mullet Key, Florida.

Asst.-Surgeon H. C. Russell, granted leave of absence for eighteen days on account of sickness, from Feb. 21, 1901.

Asst.-Surgeon V. G. Heiser, upon being relieved from duty at Naples, Italy, to proceed to Washington, D. C., and report in person for duty.

Hospital Steward F. S. Goodman, to report to the director of the Hygienic Laboratory, Washington, D. C., for duty.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 30, 1901:

SMALLPOX—*UNITED STATES AND INSULAR.*

California: Los Angeles, March 19, 15 cases; San Francisco, March 2-9, 8 cases.

District of Columbia: Washington, March 18, 16 cases.

Florida: Jacksonville, March 16-23, 2 cases.

Illinois: Anna, December-March 18, 50 cases; Chicago, March 16-23, 10 cases.

Kansas: Wichita, March 16-23, 12 cases.

Kentucky: Lexington, March 16-23, 2 cases.

Louisiana: New Orleans, March 16-23, 14 cases, 2 deaths.

Michigan: March 16-23, Bay City, 2 cases; Detroit, 6 cases.

Minnesota: March 16-23, Minneapolis, 6 cases; Winona, 10 cases.

Nebraska: Omaha, March 9-23, 12 cases.

New Hampshire: Manchester, March 16-23, 3 cases.

New Jersey: Hudson County, March 21, 6 cases; Newark, March 16-23, 1 case.

New York: New York, March 16-23, 41 cases, 6 deaths.

Ohio: Cincinnati, March 15-22, 2 cases; Cleveland, March 16-23, 43 cases, 1 death; Toledo, March 16-23, 1 case.

Pennsylvania: March 16-23, Pittsburg, 9 cases; Steelton, 6 cases.

South Carolina: Greenville, March 8-16, 2 cases.

Tennessee: March 16-23, Memphis, 26 cases; Nashville, 13 cases.

Utah: Salt Lake City, March 16-23, 40 cases.

West Virginia: Huntington,March 8-16, 12 cases; Wheeling, March 8-23, 2 cases.

Wisconsin: Milwaukee, March 16-23, 2 cases.

Porto Rico: Ponce, March 11, 13 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Feb. 23-March 9, 10 cases; Trieste, March 2-9, 2 cases.

Brazil: Rio de Janeiro, Jan. 1-31, 36 cases.

Belgium: Antwerp, Feb. 23-March 9, 8 cases.

Ceylon: Colombo, Feb. 8-16, 1 case, 1 death.

Ecuador: Guayaquil, Feb. 2-March 2, 14 deaths.

Egypt: Cairo, Feb. 25, 1 death.

France: Paris, March 2-9, 7 deaths; Roubaix, Jan. 1-31, 1 death.

Germany: Leipsic, Feb. 16-23, 1 death.

Great Britain: England, London, March 2-9, 1 case; Newcastle-on-Tyne, March 2-9, 2 cases; Scotland, Edinburgh, Feb. 2-9, 3 cases; Glasgow, March 8-15, 20 deaths.

India: Bombay, Feb. 19-26, 7 deaths; Calcutta, Feb. 8-23, 243 deaths: Karachi, Feb. 10-24, 23 cases, 10 deaths; Madras, Feb. 16-23, 7 deaths.

Japan: Yokohama, Feb. 16-23, 1 case.

Korea: Seoul, Feb. 2-9, prevalent.

Russia: Odessa, Feb. 23-March 9, 20 cases, 3 deaths; Riga, Jan. 1-Dec. 31, 1900, 174 deaths; St. Petersburg, Feb: 23-March 9, 12 cases, 1 death; Warsaw, Feb. 23-March 2, 8 deaths.

Straits Settlements: Singapore, Feb. 8-16, 2 deaths.

Syria: Jaffa, August, 1900-March 6, 1901, 4 cases, 1 death, in German colony; Jerusalem, August, 1900-Feb. 4, 1901, 1600 cases, and 35 or 40 per cent. deaths.

YELLOW FEVER.

Cuba: Havana, March 8-16, 2 cases, 2 deaths.

CHOLERA.

India: Bombay, Feb. 16-23, 6 deaths; Calcutta, Feb. 8-23, 44 deaths; Madras, Feb. 16-22, 2 deaths.

Straits Settlements: Singapore, Feb. 8-16, 4 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Jan. 6-March 2, 10 cases, 10 deaths.

PLAGUE—FOREIGN.

Africa: Cape Town, Feb. 16-March 4, 55 cases, 11 deaths.

Brazil: Rio de Janeiro, Jan. 1-31, 15 cases, 9 deaths.

China: Hongkong, Feb. 2-9, 2 deaths.

India: Bombay, Feb. 19-26, 1118 deaths; Calcutta, Feb. 8-23, 520 deaths.

Straits Settlements: Singapore, Feb. 4, 1 death.

The Journal of the American Medical Association

Vol. XXXVI. CHICAGO, ILLINOIS, APRIL 20, 1901. No. 16.

Address.

JULES LEMAIRE
THE FIRST TO RECOGNIZE THE TRUE NATURE OF WOUND INFECTION AND INFLAMMATION, AND THE FIRST TO USE CARBOLIC ACID IN MEDICINE AND SURGERY.*

HOWARD A. KELLY, M.D.
BALTIMORE, MD.

Motto: "*Je ne suis pas de cet avis. Les questions de priorité ntéressent la moralité publique, parce qu'elles traitent de la ropriété scientifique, plus respectable que toute autre propriété, et qu'il importe extremement que l'opinion publique ne 'égare pas sur les véritables auteurs des progrès scientifiques t industriels.*" (*Pasteur, réplique à une attaque de M. de Vergnette-Lamotte, Journal d'Agriculture practique, 18 juillet, 1872.)*

"*On voit que l'illustre inventeur ou au moins demonstrateur les ferments vivants ne partage pas l'opinion de notre savant naitre et ami, M. Marchal (de Calvi), qui croit que tous les progrès, toutes les découvertes doivent etre anonymes dans e nouvel ordre social, et que le sentiment intime d' avoir fait uelque chose de bien doit etre la seule récompense des inventeurs et de tous les bienfaiteurs de l'humanité.*" *(Déclat, Traité de l'acide phénique, Paris, 1874; p. 896).*

Prat: L'acide phénique à l'Académie des sciences. Réclamation de priorité. Simples réflexions.

"*Les questions de priorité, a-t-on dit quelque part, n'ont qu'un intéret médiocre. Nous ne sommes pas de cet avis. A la vérité, qu'un inventeur s'appelle A ou B, cela est de mince importance pour la science pure; mais il importe au contraire beaucoup, au point de vue de la moralité et de la justice, de rendre à chacun ce qui lui est du.*" *(La France Médicale, 1865, xii, 86).*

"*M. Pasteur a fait des expériences nouvelles, j'en ai fait moi-meme un assez grand nombre; nous avons suivi chacun une route différente qui nous a conduits à des résultats tels, qu'aujourdhui la question de la nature des ferments me parait résolue. Ce que je désire, c'est de préciser les dates, pour qu'il soit possible (si on veut le faire un jour) de rapporter à chacun de nous la part qu'il a prise à la solution de cette importante question.*" *(Lemaire: Paris, Feb. 25, 1862.)*

I think that I observe a growing tendency to speak with disdain and with a fine assumption of indifference regarding questions of contemporary priority, and this feeling, as nearly as I can trace it to its source, seems to originate in the innate natural objection of scientific workers to become partisans to any discussion which involves the sacrifice of time in determining its merits, often too lying in a field of research for which they have little inclination, with the additional prospect that the debate may sooner or later become acrimoniously personal.

It is always difficult, in cases of conflicting claims, to form a correct judgment, and the task is sure to be a disagreeable one. While I may be willing to go to great pains to set my own claims in their proper light before the public, I do not want to be dragged incontinently into the quarrels of other people with whom I have no close personal affiliations.

It is for such reasons, I think, that most questions of priority are vaguely settled on purely national and personal lines, and yet such an attitude is unjust and faulty in the extreme, for all history is but a record of the sequence of events, of acts and discoveries in which questions of priority of one sort or another continually arise, and if the contemporary historian is timid and does not set these things aright, how is he of later date, with less available information, to do justice to his task and utter the naked truth?

Contemporary history is often the only real history after all, for he who writes at a later date, with perhaps pardonable bias, often neglects many of the contributing factors in an event, when with more dramatic than scientific instinct he sets a single lay figure before his readers, to whom he ascribes the credit of a movement due in many instances to a coterie of coworkers.

If our ancestors could but read the historical writings of their posterity, I feel sure that many a bitter cry of injustice would be raised, and many a dissertation be penned to set matters in their true light.

We suffer to-day not so much from an actual falsification of our records as from a theatrical tendency to exaggerate and to distort and to present facts out of due proportion. A great name in this way often has the misfortune of unwittingly crowding out of recognition some others only a little less great also deserving recognition.

HISTORIC GENESIS OF ANTISEPSIS.

With this brief preliminary I shall proceed at once to a consideration of the historical genesis of the antiseptic idea, and I trust that I may now, after a lapse of more than a generation, enter upon this little bit of research untrammelled by national prejudice or the bias of preconceived ideas rooted in our education.

It is a natural impulse and, I think, a good one, to pause after rounding such a cycle of time as is represented by a century, to review our progress and to question our opinions, as well as to set right matters of history and apportion the laurels to their rightful owners; and it is for this reason that I have ventured to present this great question of the discovery of antisepsis.

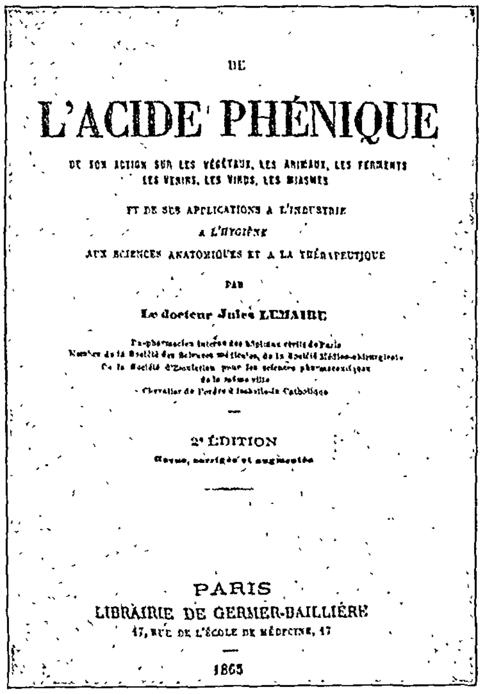
If I were asked what I consider the greatest acquisition of the past century, I should unhesitatingly reply: the introduction of antisepsis into surgery; for what are all the gross material achievements of our race in the way of facilities of transportation and communication, the enormous gains in creature comforts bestowed by the great century of *inventions; what is progress of* any sort compared with the relief from suffering and the years added to life by the bolder surgery of to-day? They are but as the dust in the balance in comparison to him who rightly appreciates the sacredness of a single human life.

---

* Delivered before the Cincinnati Academy of Medicine.

I shall not pause to dwell upon the familiar picture of the enormous differences between the surgery of fifty years ago and that of the end of the century, further than to call to mind that the new principle of antisepsis, aside from restricting active operative surgery in certain fields, such as compound fractures, and opening up a great new surgical domain in the abdomen, has probably multiplied the sum-total of the surgical work done not less than thirty-fold.

Please bear in mind these principles, which shall govern our inquiry: 1. We are about to enter upon a purely historical research. 2. The only indisputable evidence at our command is to be found in printed documents. 3. There are, fortunately, no claims and counterclaims of priority which can not be settled by these documents. 4. It is no discredit to one recognized inventor or discoverer to have been anticipated by another in many of the important details of his invention or discovery, provided he has not profited by such labors without due acknowledgement. 5. As a corollary to this, we may agree equally to honor, or to honor in different degrees, a number of men whose faithful labors have conspired to bring about any condition beneficial to the human race. 6. In forming such an estimate we must in each individual case take into account the clearness of presentation, the persistence indicative of earnest conviction, the sum-total of publications, as well as what is known of the general course of the man's life in relation to the question in hand. 7. I might add that we can never arrive at the absolute truth in any case.



DE

L'ACIDE PHÉNIQUE

DE SON ACTION SUR LES VÉGÉTAUX, LES ANIMAUX, LES FERMENTS
LES VENINS, LES VIRUS, LES MIASMES

ET DE SES APPLICATIONS A L'INDUSTRIE
A L'HYGIÈNE
AUX SCIENCES ANATOMIQUES ET A LA THÉRAPEUTIQUE

PAR

Le docteur Jules LEMAIRE

2e ÉDITION

PARIS
LIBRAIRIE DE GERMER-BAILLIÈRE
17, RUE DE L'ÉCOLE DE MÉDECINE, 17

1865

In the year 1863 Dr. Jules Lemaire, of Paris, published a comprehensive work on phenic (carbolic) acid, which was so widely read that in sixteen months no more copies were left in the bookstores, and there were calls for over two hundred copies within a period of five months; these could not be supplied. This interest Lemaire modestly says was in no way due to his own name, which was but little known, but to the real public interest in the subject. It is sufficient for my present purpose to draw from the second enlarged edition published in 1865, some five years after Lemaire's first work, but still nearly two years before any publication upon this subject in any other country. This work is entitled: "De l'acide phénique de son action sur les végétaux, les animaux, les ferments, les venins, les virus, les miasmas et de ses applications à l'industrie, à l'hygiène, aux sciences anatomiques et à la thérapeutique" (2. Edition).

It forms a volume of 754 pages, admirably written and handling the subject in an exhaustive and scientific spirit. The first part—30 pages—is devoted to the history and the uses of coal-tar, from which carbolic acid is derived. Chapter 1 traces the history and properties of carbolic acid already recognized; Chapter 2 is a study of the action of carbolic acid upon vegetables and animals; Chapter 3 is devoted to its action upon fermentation in living and in dead tissues; Chapters 4 and 5, to its practical uses in the destruction of parasites and microphytes; Chapter 6, to its application to hygiene and as a disinfectant; Chapter 7, to its use in the anatomical sciences and as a preservative; Chapter 8, to its therapeutic uses, in preserving wounds and pus from fermentation, in diseases of the skin; its internal use; Chapter 9, to various pharmaceutical formulæ containing carbolic acid. An appendix contains some valuable documents relative to priority.

I shall make no apology, in a matter of such great importance, for reviewing somewhat carefully some of the important contents of several of these chapters, after which, I trust that we may draw the irresistible conclusion that we have here the privilege of doing homage to one of the greatest names in the annals of medical science, and that henceforth the name of Lemaire will be duly invested with that respect and honor which are accorded to the few whom we reckon great benefactors of the race.

We observe at the very outset, as we read the introduction to this work, that a great mind will often discover in a little matter, which has long been a subject of common interest and attention without leading to any conclusion, food for serious reflection, and will ultimately, by the investigation and analysis of ordinary phenomena, evolve laws of far-reaching significance.

Early Investigations in Coal-tar.—Lemaire's fruitful studies began with the use of coal-tar, whose antiseptic and disinfectant properties had been noted as early as 1815, 1833 and 1837. In 1844 Bayard was crowned by the "Société d'Encouragement" for a powder of coal-tar, plaster, sulphate of iron and clay, which he used as a disinfectant for hygienic purposes. In 1857 Boboeuf took out a patent on the separation of the acid oils of coal-tar, by saponification, which he then applied to the same uses for which the plaster mixture had been recommended, only in a more convenient and manageable form. In 1859 Demeaux applied a powder of coal-tar and plaster to the disinfection of wounds and aroused great interest in a report upon its use in the hospitals of Paris and in the army of Italy.

This event and this epoch alone are worthy of the careful study of the student of history, so fully did both the profession and the public realize the importance of any means of limiting the awful ravages of infection so rampant wherever wounds were treated.

The great difficulty with this form of coal-tar was that the solidification of the plaster in the mixture rendered it so difficult to apply; in order to form a coarse powder it needed 97 to 98 parts of the dry excipient, so that the mixture contained not more than 2 or 3 per cent. of coal-tar, the active agent. The use of such a mixture in wounds was also accompanied by the utmost inconvenience from the solidification of the plaster. The trouble was then that, as far as surgery is concerned, the powder was practically useless, although its disinfecting power was generally recognized. Coal-tar was at that time generally believed to be totally insoluble in water.

Fatty bodies which mixed admirably with coal-tar materially altered its properties, as demonstrated by Lemaire, and its natural solvents, alcohol, ether, acetic acid, and volatile oils, forbid its use on wounds, besides costing too much for use on any extensive scale for disinfecting.

Work of Le Beuf.—One valuable means of utilizing coal-tar, lying within easy reach, had been overlooked, and that was an emulsion of saponized coal-tar. In 1850 Ferdinand Le Beuf, of Bayonne, a pharmacist, whose name ought never to be forgotten, presented to the French Academy of Sciences a work in which he established the fact that: "All substances insoluble in water but soluble in alcohol, upon the addition of saponine to their alcoholic solution at once became minutely divided and form stable emulsions." Le Beuf consulted Lemaire as to whether coal-tar treated in this way still retained its notable properties as a disinfectant, and Lemaire undertook the investigation which led him so far afield and proved so fruitful to science and humanity. This preparation is made by taking bark of quillaya saponaria, 2 kil., alcohol (90 per cent.), 8 liters, heating to the boiling point and filtering. This preparation, called the alcoholic tincture of saponine, is really a tincture of quillaya. The saponized tincture of coal-tar is then made by taking: Coal-tar, 1000 gr.; tincture of quillaya, 2400 gr., letting it stand for eight days in tepid water, being stirred from time to time and finally filtered. Four parts of water added to this last preparation form an immediate and stable emulsion. This mixture, so widely and successfully used by Lemaire, and freely given to the profession, is wonderfully like a preparation in use to-day and known as "creoline" —verbum sapienti sat. It is interesting to note and pleasant to comment upon the generosity of Le Beuf[1] in giving full publicity to his formula.

Use of Saponized Coal-tar.—I quote Lemaire's first experience with the new mixture, saponized coal-tar, as it well deserves to become historic. It was in August, 1859; the patient had a large gangrenous wound situated in the gluteal fold. The results of Lemaire's saponized coal-tar application were so extraordinary that he and Le Beuf promptly presented a preliminary note to the Academy, Sept. 8, 1859. On the 20th of the same month Lemaire wrote a second explanatory note enlarging upon the first and presenting new facts, and in this note he says: "I urged all the advantages surgery would enjoy from this preparation"—*Dans cette note, je pressentais tous les advantages que la chirurgie pourrait obtenir de cette préparation.*

The saponized coal-tar was then widely used, and reported upon so favorably that at the request of several surgeons it was authorized for the civil hospitals of Paris, April 25, 1862. The French Academy, taking cognizance of its extensive employment, charged the great surgeon Velpeau to experiment and report upon its use, and it is interesting to note that when the greatest living surgeon came in contact with that which contained *in posse* the greatest discovery of the century, he failed to appreciate the situation, and treated the matter, if I may read between the lines of his report, with a somewhat impatient disdain, as a rather impertinent intrusion upon his own peculiar prerogatives. Had Velpeau, with simple humility, the noblest characteristic of a great mind, approached the question without bias, bringing to bear upon it his great surgical genius, with his abundant clinical material and powers of investigation, who can tell what would have been the result to French surgery.

Coal-tar and Disinfection.—How curious in the light of all that has been wrought in surgery during the past forty years, does this conclusion of the great master sound: "Whether it is phenic acid, or even rosolic acid, brunolic, or aniline or pisoline of coal-tar which is the disinfectant, it amounts to but little in reality, science will declare it some day"—*Que ce soit l'acide phénique ou bien l'acide rosolique, brunolique, l'aniline, ou la picoline du coal-tar qui disinfecte, peu importe au fond, la science le dira un jour.*[2]

We find it difficult to realize, even after the lapse of so short a period as one generation, that one of the notable results of the use of saponized coal-tar in the various hospitals was the disappearance of insects, maggots, flies, roaches, and bedbugs. So accustomed had they grown to these pests that some surgeons, at no remote date even, thought it an advantage to let the maggots multiply in a wound.

Granted then, with Lemaire, that coal-tar has such a remarkable effect upon wounds, the next step in his inquiry was to meet the objection that the coal-tar does not disinfect, but simply disguises the odor, by substituting another less disagreeable (Chevreul), and this is his conclusion: "Coal-tar does not disinfect like chlorin and the salts of zinc and of iron, which transform the infected materials by a double decomposition or otherwise into inodorous bodies; it exercises no chemical action whatever on odorous gases, but acts upon the cause which produces these gases, that is to say upon the ferments. The odor is masked at first it is true, but as the cause of the odor is suddenly destroyed by the arrest of fermentation at the moment of the mixture, the odor is no longer produced."

In 1859 and 1860, some animals, in an advanced state of putrefaction, were injected through the arterial system with saponized coal-tar, and as a consequence they became dry and kept perfectly in the open air, without further alteration. He says: "To solve this question I studied the ferments. Numerous experiences in 1860 taught me that saponized coal-tar destroys the microphytes and microzoa, and that these little beings could not develop in its presence." "I found it then necessary to seek some other explanation than that which accords to oxygen the rôle of the ferment in albuminoid materials." "The ferments are living beings, and in this manner all the remarkable facts I have observed can be explained." The action of coal-tar on the wounds has led me to a new theory as to the formation of pus." "I have been able with the coal-tar to arrest and to reproduce at will the formation of pus just as I have been able to arrest and reproduce fermentation and germination." "I affirm that to-day with saponized coal-tar it is possible to enormously reduce the formation of pus and to hinder its putrid changes. To make this result known to men of capacity is to tell them that it will be a great benefaction to humanity. Purulent infection, which I do not confound with resorption, appears to him who rightly appreciates the sacredness of a single human life.

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[1] Lemaire: Du Coal-tar Saponiné, etc., p. 6, Paris, 1860.

[2] Boboeuf: Mémoire adressé à l'Académie des Sciences, sur l'acide phénique, Paris, 1865, p. 10.

I shall not pause to dwell upon the familiar picture of the enormous differences between the surgery of fifty years ago and that of the end of the century, further than to call to mind that the new principle of antisepsis, aside from restricting active operative surgery in certain fields, such as compound fractures, and opening up a great new surgical domain in the abdomen, has probably multiplied the sum-total of the surgical work done not less than thirty-fold.

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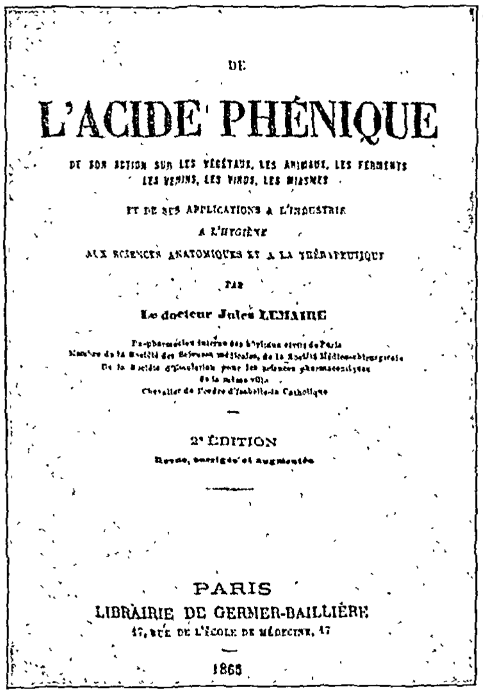

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AUX SCIENCES ANATOMIQUES ET A LA THÉRAPEUTIQUE

PAR

Le docteur Jules LEMAIRE

Ex-pharmacien interne des hôpitaux civils de Paris
Membre de la Société des Sciences médicales, de la Société Médico-chirurgicale
De la Société d'émulation pour les sciences pharmaceutiques
de la même ville
Chevalier de l'ordre d'Isabelle-la Catholique

2e ÉDITION
Revue, corrigée et augmentée

PARIS
LIBRAIRIE DE GERMER-BAILLIÈRE
17, RUE DE L'ÉCOLE DE MÉDECINE, 17

1865

In the year 1863 Dr. Jules Lemaire, of Paris, published a comprehensive work on phenic (carbolic) acid, which was so widely read that in sixteen months no more copies were left in the bookstores, and there were calls for over two hundred copies within a period of five months; these could not be supplied. This interest Lemaire modestly says was in no way due to his own name, which was but little known, but to the real public interest in the subject. It is sufficient for my present purpose to draw from the second enlarged edition published in 1865, some five years after Lemaire's first work, but still nearly two years before any publication upon this subject in any other country. This work is entitled: "De l'acide phénique de son action sur les végétaux, les animaux, les ferments, les venins, les virus, les miasmas et de ses applications à l'industrie, à l'hygiène, aux sciences anatomiques et à la thérapeutique" (2. Edition).

It forms a volume of 754 pages, admirably written and handling the subject in an exhaustive and scientific spirit. The first part—30 pages—is devoted to the history and the uses of coal-tar, from which carbolic acid is derived. Chapter 1 traces the history and properties of carbolic acid already recognized; Chapter 2 is a study of the action of carbolic acid upon vegetables and animals; Chapter 3 is devoted to its action upon fermentation in living and in dead tissues; Chapters 4 and 5, to its practical uses in the destruction of parasites and microphytes; Chapter 6, to its application to hygiene and as a disinfectant; Chapter 7, to its use in the anatomical sciences and as a preservative; Chapter 8, to its therapeutic uses, in preserving wounds and pus from fermentation, in diseases of the skin; its internal use; Chapter 9, to various pharmaceutical formulæ containing carbolic acid. An appendix contains some valuable documents relative to priority.

I shall make no apology, in a matter of such great importance, for reviewing somewhat carefully some of the important contents of several of these chapters, after which, I trust that we may draw the irresistible conclusion that we have here the privilege of doing homage to one of the greatest names in the annals of medical science, and that henceforth the name of Lemaire will be duly invested with that respect and honor which are accorded to the few whom we reckon great benefactors of the race.

We observe at the very outset, as we read the introduction to this work, that a great mind will often discover in a little matter, which has long been a subject of common interest and attention without leading to any conclusion, food for serious reflection, and will ultimately, by the investigation and analysis of ordinary phenomena, evolve laws of far-reaching significance.

Early Investigations in Coal-tar.—Lemaire's fruitful studies began with the use of coal-tar, whose antiseptic and disinfectant properties had been noted as early as 1815, 1833 and 1837. In 1844 Bayard was crowned by the "Société d'Encouragement" for a powder of coal-tar, plaster, sulphate of iron and clay, which he used as a disinfectant for hygienic purposes. In 1857 Boboeuf took out a patent on the separation of the acid oils of coal-tar, by saponification, which he then applied to the same uses for which the plaster mixture had been recommended, only in a more convenient and manageable form. In 1859 Demeaux applied a powder of coal-tar and plaster to the disinfection of wounds and aroused great interest in a report upon its use in the hospitals of Paris and in the army of Italy.

This event and this epoch alone are worthy of the careful study of the student of history, so fully did both the profession and the public realize the importance of any means of limiting the awful ravages of infection so rampant wherever wounds were treated.

The great difficulty with this form of coal-tar was that the solidification of the plaster in the mixture rendered it so difficult to apply; in order to form a coarse powder it needed 97 to 98 parts of the dry excipient, so that the mixture contained not more than 2 or 3 per cent. of coal-tar, the active agent. The use of such a mixture in wounds was also accompanied by the utmost inconvenience from the solidification of the plaster. The trouble was then that, as far as surgery is concerned, the powder was practically useless, although its disinfecting power was generally recognized. Coal-tar was at that time generally believed to be totally insoluble in water.

Fatty bodies which mixed admirably with coal-tar materially altered its properties, as demonstrated by Lemaire, and its natural solvents, alcohol, ether, acetic acid, and volatile oils, forbid its use on wounds, besides costing too much for use on any extensive scale for disinfecting.

Work of Le Beuf.—One valuable means of utilizing coal-tar, lying within easy reach, had been overlooked, and that was an emulsion of saponized coal-tar. In 1850 Ferdinand Le Beuf, of Bayonne, a pharmacist, whose name ought never to be forgotten, presented to the French Academy of Sciences a work in which he established the fact that: "All substances insoluble in water but soluble in alcohol, upon the addition of saponine to their alcoholic solution at once became minutely divided and form stable emulsions." Le Beuf consulted Lemaire as to whether coal-tar treated in this way still retained its notable properties as a disinfectant, and Lemaire undertook the investigation which led him so far afield and proved so fruitful to science and humanity. This preparation is made by taking bark of quillaya saponaria, 2 kil., alcohol (90 per cent.), 8 liters, heating to the boiling point and filtering. This preparation, called the alcoholic tincture of saponine, is really a tincture of quillaya. The saponized tincture of coal-tar is then made by taking: Coal-tar, 1000 gr.; tincture of quillaya, 2400 gr., letting it stand for eight days in tepid water, being stirred from time to time and finally filtered. Four parts of water added to this last preparation form an immediate and stable emulsion. This mixture, so widely and successfully used by Lemaire, and freely given to the profession, is wonderfully like a preparation in use to-day and known as "creoline"—verbum sapienti sat. It is interesting to note and pleasant to comment upon the generosity of Le Beuf[1] in giving full publicity to his formula.

Use of Saponized Coal-tar.—I quote Lemaire's first experience with the new mixture, saponized coal-tar, as it well deserves to become historic. It was in August, 1859; the patient had a large gangrenous wound situated in the gluteal fold. The results of Lemaire's saponized coal-tar application were so extraordinary that he and Le Beuf promptly presented a preliminary note to the Academy, Sept. 8, 1859. On the 20th of the same month Lemaire wrote a second explanatory note enlarging upon the first and presenting new facts, and in this note he says: "I urged all the advantages surgery would enjoy from this preparation"—*Dans cette note, je pressentais tous les advantages que la chirurgie pourrait obtenir de cette préparation.*

The saponized coal-tar was then widely used, and reported upon so favorably that at the request of several surgeons it was authorized for the civil hospitals of Paris, April 25, 1862. The French Academy, taking cognizance of its extensive employment, charged the great surgeon Velpeau to experiment and report upon its use, and it is interesting to note that when the greatest living surgeon came in contact with that which contained *in posse* the greatest discovery of the century, he failed to appreciate the situation, and treated the matter, if I may read between the lines of his report, with a somewhat impatient disdain, as a rather impertinent intrusion upon his own peculiar prerogatives. Had Velpeau, with simple humility, the noblest characteristic of a great mind, approached the question without bias, bringing to bear upon it his great surgical genius, with his abundant clinical material and powers of investigation, who can tell what would have been the result to French surgery.

Coal-tar and Disinfection.—How curious in the light of all that has been wrought in surgery during the past forty years, does this conclusion of the great master sound: "Whether it is phenic acid, or even rosolic acid, brunolic, or aniline or pisoline of coal-tar which is the disinfectant, it amounts to but little in reality, science will declare it some day"—*Que ce soit l'acide phénique ou bien l'acide rosolique, brunolique, l'aniline, ou la picoline du coal-tar qui désinfecte, peu importe au fond, la science le dira un jour.*[2]

We find it difficult to realize, even after the lapse of so short a period as one generation, that one of the notable results of the use of saponized coal-tar in the various hospitals was the disappearance of insects, maggots, flies, roaches, and bedbugs. So accustomed had they grown to these pests that some surgeons, at no remote date even, thought it an advantage to let the maggots multiply in a wound.

Granted then, with Lemaire, that coal-tar has such a remarkable effect upon wounds, the next step in his inquiry was to meet the objection that the coal-tar does not disinfect, but simply disguises the odor, by substituting another less disagreeable (Chevreul), and this is his conclusion: "Coal-tar does not disinfect like chlorin and the salts of zinc and of iron, which transform the infected materials by a double decomposition or otherwise into inodorous bodies; it exercises no chemical action whatever on odorous gases, but acts upon the cause which produces these gases, that is to say upon the ferments. The odor is masked at first it is true, but as the cause of the odor is suddenly destroyed by the arrest of fermentation at the moment of the mixture, the odor is no longer produced."

In 1859 and 1860, some animals, in an advanced state of putrefaction, were injected through the arterial system with saponized coal-tar, and as a consequence they became dry and kept perfectly in the open air, without further alteration. He says: "To solve this question I studied the ferments. Numerous experiences in 1860 taught me that saponized coal-tar destroys the microphytes and microzoa, and that these little beings could not develop in its presence." "I found it then necessary to seek some other explanation than that which accords to oxygen the rôle of the ferment in albuminoid materials." "The ferments are living beings, and in this manner all the remarkable facts I have observed can be explained." The action of coal-tar on the wounds has led me to a new theory as to the formation of pus." "I have been able with the coal-tar to arrest and to reproduce at will the formation of pus just as I have been able to arrest and reproduce fermentation and germination." "I affirm that to-day with saponized coal-tar it is possible to enormously reduce the formation of pus and to hinder its putrid changes. To make this result known to men of capacity is to tell them that it will be a great benefaction to humanity. Purulent infection, which I do not confound with resorption, appears to me to be the result of the action of the ferment of pus upon the economy."

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[1] Lemaire: Du Coal-tar Saponiné, etc., p. 6, Paris, 1860.

[2] Boboeuf: Mémoire adressé à l'Académie des Sciences, sur l'acide phénique, Paris, 1865, p. 10.

Lemaire's next inquiry is whether coal-tar owes its disinfectant property to a single principle in it, and this he answers after numerous experiments with its various constituents, by concluding that the carbolic acid isolated is much more energetic than the coal-tar.

With this remarkable and learned introduction begins the book upon carbolic acid, whose properties as investigated by Lemaire we will now study.

PROPERTIES OF CARBOLIC ACID.

I have not time to dwell upon the interesting history of carbolic acid, a history full of valuable hints as to the place it was destined to occupy in surgery. Lemaire's attention was next directed to the effect of aqueous solutions of carbolic acid upon vegetables, grain and germination, including the molds. He states that a minute quantity of carbolic acid is sufficient to destroy the following: microzoa, spermatozoa, bacteria, vibrios, spirilla, amoebæ, monads, euglenia, paramecia, rotifers, and vorticellæ. He further experimented with lumbricoid worms and earth worms, as well as twenty-five different families of articulates, and slugs and snails and eight different kinds of vertebrates, including fish, frogs, bull-heads, salamanders, sparrows, mice, horses, dogs and man.

Action on the Skin.—He found that when strong acid was applied to the skin of dogs and horses, it caused a dry scar to form, which separated in ten or twelve days. The parts below the scar were slightly moist, but did not suppurate or show any trace of true inflammation. "The result of all I have said is to show that carbolic acid has a very energetic action on the skin; that the pure acid produces a burn of the third degree which is not accompanied by suppuration. These facts give great support to my theories to the formation of pus."

He observed that the action of alcohol is to attenuate that of the acid, and remarked that he carried on his arm the spots which were made two years before, by the acid, while the parts touched with an alcoholic mixture of equal parts showed but faint traces of its action. This result is an important one for practitioners, as they would in this way be able to avoid tatooing their patients. He noted that olive-oil containing 5 per cent. carbolic acid does not prevent the putrefaction of meat.

Carbolic Acid and Ferments.—The next and most important inquiry is that of Chapter 3, as to the action of carbolic acid on ferments, venoms, virus and miasms. Its action on ferments, which form in materials abandoned by life, is shown by several interesting experiments. A fresh egg was dissolved in 200 grams of water and put in a jar coated on the inside with a thin layer of carbolic acid. The jar was covered with parchment and left for two months at a temperature of 18 to 20 C., when the egg was found fresh. Fresh meat was tried in the same way and three experiments out of six succeeded. In one of them the meat kept for six months, and in two others it presented the rosy appearance of fresh meat at the end of eight months. Two sparrows were kept in the same way, and at the end of the month one of them presented no trace of any change—the tissues were as fresh and the feathers as well fixed as on the first day; one of them had a putrid odor which Lemaire said showed there was communication with the air, due to volatilization of the carbolic acid which then disappeared when the organic material began to ferment anew.

By applying the carbolic acid test, Lemaire was then able to distinguish between true fermentations due to living beings and so-called fermentations, such as the hectic, synapic, myrosic and glucosic, which were due purely to chemical changes and remained uninfluenced by the carbolic acid.

Venoms, our learned author decided, after making some experiments, are not analogous to ferments because the action of the venom is immediate, without any period of incubation; venoms are rather chemical agents comparable to diastase and synaptase. A virus, however, of which vaccin may be taken as a type, Lemaire decided to be essentially different from a venom. There can be, he said, no doubt as to the nature of cadaveric virus; it is but the product of fermentation and in consequence contains living organisms. As to those, however, which form during life, he noted these significant facts: there is always a period of incubation, there is development and indefinite multiplication, properties belonging to living ferments. A virus can be kept a long time and still preserve its reproductive character. When inoculated, a virus reproduces itself exactly as the seed of grain reproduces its own species. The conditions most favorable to a virus are also those most favorable to a ferment. All these properties leave no doubt but that the virus is a living organism. And this idea of a pathology due to living organisms—*pathologie animée*—was held two centuries ago by Athanasius Kircher, who held that contagious diseases were propagated by *animalcules, worms of species differing with the different* maladies.[3]

In evidence of this new view he cites the fact that vibrios have been found in the pus taken from a chancre, as well as that taken from a balanitis. Micro-organisms have also been found in the pus of a vaginitis. Microphytes have been found in the pus of cancer, by Wagner, and Lemaire himself demonstrated the presence of living structures in the pus of anthrax. Bacteria have been found in the pus of malignant pustule. So we see that independently of the characteristics of living organisms possessed by pus, we can now add that animalcules have been found in it and that the virus containing them produces its usual effects as well as an incalculable number of animalcules.

The infection produces its usual effect since the reproduction and the múltiplication of the animalcules is the result. "In my new theory as to the formation of pus, I have compared its globules to those one sees in the yeast of beer, and I have accorded them an analogous rôle. I have demonstrated that the appearance of these globules coincides with certain chemical phenomena, just as in the case of the infusoria in fermentations. After using coal-tar the new pus formed contains nothing more than serum. Since then we find in pus (and when I say pus it is just the same as though I said virus, since the viruses are but a species of pus) microphytes and microzoa, and since these humors always reproduce their own species, and since they have in the bodies of men and animals a period of incubation, of development, and multiply to incalculable proportions, it is impossible not to recognize in these characters the attributes of life."

This is the discovery which overthrew the theories of Liebig, of whom Lemaire says: "If Liebig had been a little less of a chemist it is probable he would have discovered the real nature of the ferments, for albuminous materials are indispensable to spontaneous fermentation.

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[3] V. Ath. Kircher Scrutinium physico-medicum contagiosæ luis quae pestis dicitur, Romæ, 1658.

The communicated movement also exists. Only in the motor has he deceived himself and *that is life*, and this is the reason why death arrests all."

In conclusion, I can not pause to dwell upon the innumerable uses Lemaire proposed to make of carbolic acid to prevent all kinds of diseases due to fermentation, including all the infectious diseases, miasms and malaria. I have brought before you sufficient to demonstrate that he showed a wonderful grasp of the greatest medical problems of the generation which succeeded his period of activity. His theories regarding all these diseases have been established, and in many cases the specific organisms have been identified. We have, after all, but been walking in the path marked out for us by Lemaire. In surgery he established the great principle of a living septic agent in putrefying and suppurating wounds, and he laid the foundation stone of successful treatment.

Lister's first publication appeared in the *Lancet*, in March, 1867, p. 326, two years later, some seven years after Lemaire's first observations, and was entitled: "On a New Method of Treating Compound Fractures, Abscess, etc., with Observations on the Conditions of Suppuration." These are his closing remarks on this head, under the caption, "The Use of Carbolic Acid to Preserve Wounds and Pus from Fermentation:" "I have dwelt at sufficient length on the changes which solutions of continuity undergo on contact with the air. I will not revert to it. It is sufficient to recall the fact that all these disorders are the work of living ferments. To protect the solution of continuity from fermentation it is sufficient to cover them from the start with compresses constantly soaked with carbolized water. Two parts in a thousand are sufficient, except when the heat is great, then the strength should be five in a thousand. It is necessary to avoid the use of glycerin or fatty bodies as excipients for the carbolic acid."

The furor for carbolic acid culminated in an earnest protest by Franz Pfiffner,[4] under the title: "Die Carbofieber-Pandemie," where he quotes Berger, who uttered these prophetic words: *"Geht man in seinen Aufforderungen zu weit, so laeuft das Mittel Gefahr, ebenso rasch vom Schauplatz der Aerztlichen Thaetigkeit wieder zu verschwinden, wie es so vielen andern Mitteln auf Grund kritikloser Empfehlungen ergangen ist." Diese Goldenen Worte lassen sie mich auch fuer das Carbol in Anspruch nehmen.*

I think the use of carbolic acid administered as a germicide has steadily decreased since the following words were written:—*Meine Herren! Ich waere nun mit meinem Thema, die Ohnmacht einer internen Carboltherapie gegen Infectionskrankheiten darzuthun, zu Ende. Es sei drum nur anghangsweise des Carbols gegen mono- und polyarticulaeren Rheumatismus erwaehnt. Kunze hat einige brillante Erfolge von dieser Behandlung notirt. A priori bedaure ich, dass es gerade diese Krankheit sein muss, die dem Carbol zu weiterer Beruehmtheit verhelfen soll. Dieses schwergepruefte Kind unserer Sorgen ist schon durch so manches Mittel curirt worden, dass die neue Entdeckung fast ueberfluessig erscheint. Chinin hat geholfen, Bleizucker hat geholfen, Jodkali, Salpeter, hydropatische Einwicklung, Propylamin—Alles, Alles hat geholfen; Und mit welcher Emphase wurden alle diese Mittel zu ihrer Zeit gepriesen! Alle hat der Orkus wieder verschlungen. Wird es auch dem Carbol so ergehen? Bill hat bereits in dem American Journal berichtet, das er von Carbol bei Rh. acut. nicht den geringsten Erfolg beobachtet habe.*

CONCLUSIONS.

What shall I say in conclusion? Carbolic acid, whether to our loss or to our gain, has almost disappeared from our surgical armamentarium, like Sims's silver wire suture. Had it remained it would have served as a golden thread on which to string such a chaplet of pearls as the names of Le Beuf, Lemaire, Lister, and others in America and Germany, who were closely identified with the evolution of the great underlying principle.

But carbolic acid is gone, and in its place we possess that which is of far more value—a great principle, the antiseptic principle, to be maintained by any efficient means whatever, whether mechanical, or chemical, whether by soap and water and the scrubbing brush, by dint of force, or by an electric current or by steam, boiling water or the corrosive chlorid of mercury, or what not. The smaller mind regrets the universal panacea in a shibboleth, a drug; the broader horizon bounds the principle far wider in its applicability, and available under all conditions, at all times.

Let us, like the great Lemaire, in the midst of the apparently simple things which surround us, ever seek patiently for the great underlying truths, firmly convinced that no fact stands single and isolated, but every phenomenon is but a link in a great chain, or rather a thread in a great network in organic unison with a great whole, and those men are accounted great who with a wider comprehension and a wise induction look past the tiny present fact out toward the infinite, whither they journey so as to bring home to their fellows some of that rich store which lies ready at hand within the reach of every man who has the will to pursue his aim with a single eye.

In this drama, which thus figures in the confines of time as the greatest episode in the history of surgery, and conspires for the first time in the centuries with the cellular pathology of Virchow, to make surgery no less a science than an art; in this drama, I say, two great names are left, as heritages, representatives of nations the greatest of our modern civilization. England, the first to obtain the recognition of the world, holds the name of Lister, who, justly honored by his queen, and venerated by his countrymen, will ever live as her greatest surgeon. With indefatigable zeal, with calm judgment, dispassionate as one who has a great object before him, Lister steadily strode toward his great goal, and there he stands on the pinnacle of success, a hero and an object of emulation to surgeons of every generation.

France also claims a great man, pre-eminent and a model as a scientific investigator. One who without the stimulus of applause and appreciation, but conscious of the greatness of his aim, with wonderful thoroughness and patience in detail caught a small, and to all but him insignificant, clue and traced it until he cleared up and established the greatest facts ever known in medicine or surgery.

What matters the lack of timely recognition, to such a mind, of applause, or of medals bestowed? Who can give honor to such a man? Nay, it is he, who, by his unassuming steadfast devotion to one great aim, has bequeathed us this heritage and honors us who remain with an undying example.

I can not do better than close with Lemaire's[5] own words: *J'ai l'espoir que l'Academie voudra bien tenir compte que Je ne suis qu'un simple ouvrier qui apporte des matériaux pour construire un édifice que les architects plus habiles que moi termineront.*

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[4] Correspondenzblatt f. Schweizer Aerzte, Basel, 1875, p. 6.

[5] Considérations sur la rôle des Infusoires et des Matières Albuminoides dans la Fermentation, la germination et la fécondation.

Original Articles.

TRACHELOPLASTY.

HENRY PARKER NEWMAN, A.M., M.D.
CHICAGO.

The Normal and Pathologic Significance of the Cervix Uteri.—Thirty years of progress and research in medical science have not shaken materially the theory of Montrose Pallen, who, in 1867, in a prize essay read before the American Medical Association, enunciated these propositions: 1. Menstruation, irregular in its character, is always coincident with uterine disease. 2. All uterine abnormalities tend to a deformity of the organ, either in its neck or in its body, or in both. "The healthy functioning of any organism necessitates a healthy condition for its performance," and, "no unhealthy cause can produce healthy effects; therefore, from a uterus abnormal can no healthy menstrual flux proceed;" and whereas he later qualified these statements by saying that "irregular menstruation may depend upon systemic causes wherein the uterine disease is but functional and symptomatic," we ourselves know that these are the exceptions and that the great majority of our cases are of the kind that proves the rule. Even when the cause is systemic, too often its persistence leads to a state of chronic functional disturbance of the uterine system, and we have a condition calling for local investigation and treatment.

At the time Pallen wrote, lesions of the cervix uteri, such as lacerations, malformations and stenosis, were among the most prolific causes of gynecic disease, and many operations and instruments were devised for their correction. Since then there has been great advance in gynecology and obstetrics, and in prophylactic medicine, with the result that many of the factors which brought about these conditions of the cervix have been eliminated from modern life, and the pelvic organs of woman have a better outlook during the developmental period of childhood and puberty, and are more judiciously conserved during childbirth and the puerperium. At the same time, there is still to be found in the faulty methods of education, dress and diet, careless midwifery, and the "strenuous life," too much cause for malnutrition, mal-development, infections and traumatism of the genital tract. Take, for example, the cervix, a delicate organ, whose function is to soften and dilate during menstruation and copulation, to undergo easy and natural changes during pregnancy and labor; too often it is found instead contracted and resistant, setting up a barrier to healthy menstruation, becoming a storehouse of infectious germs, and giving rise to a long train of obstinate evils. Even in a uterus which seems to have a fairly free outlet at the cervix, the hyperemia which accompanies the monthly molimen may bring the cervical walls so closely in apposition that the flow is materially retarded and the secretions more or less retained. Retention of the secretions gives rise to an elaborate sequence of allied diseases, such as endometritis, salpingitis, oöphoritis, etc.

Importance of Cervical Function.—When we have under observation the sufferer from chronic metritis, with her full allotment of general and special ills, her dyspepsia, neuralgia, headache, backache, anemia, nervous symptoms and very natural mental depression, we can not but be convinced of the importance of a function whose disturbance has resulted so disastrously. We realize also that our work should be directed to the one end of re-establishing and maintaining a condition of the tissues which shall permit the regular and normal functioning of this organ.

In the milder cases we may choose between a prolonged course of routine, palliative treatment, and the more radical surgical procedures. In the graver, where there has been extension to the tubes and ovaries, salpingo-oöphorectomy, ovariotomy, or hysterectomy may become necessary to remove the local effects of disease, but not always with hope of bringing back a normal degree of health in a constitution injured and disturbed by long presence of diseased conditions.

Improved Technique in Operating.—In selecting a method of surgical repair of the cervix uteri, we should remember that that is most excellent which requires least preparation and after-treatment, and which exacts least in the way of time and patience from patient and physician. And here let me remark that there is a reaction against the tedium of routine local treatment that bids fair, like all reactions, to go almost too far and abrogate it altogether. It is certainly a detriment to the average patient to be subjugated to prolonged topical treatment. It has a tendency to establish the habit of invalidism, and to fix the attention inward, which is not a healthy stimulus to recuperation. I have for some years sought to do operative work of such a character that as much as possible may be accomplished at one sitting, and the patient led to expect prompt recovery and encouraged to consider herself free from bondage to the gynecologic chair. My results have so far been satisfactory. Though my manner of operating differs materially from any so far described it possesses

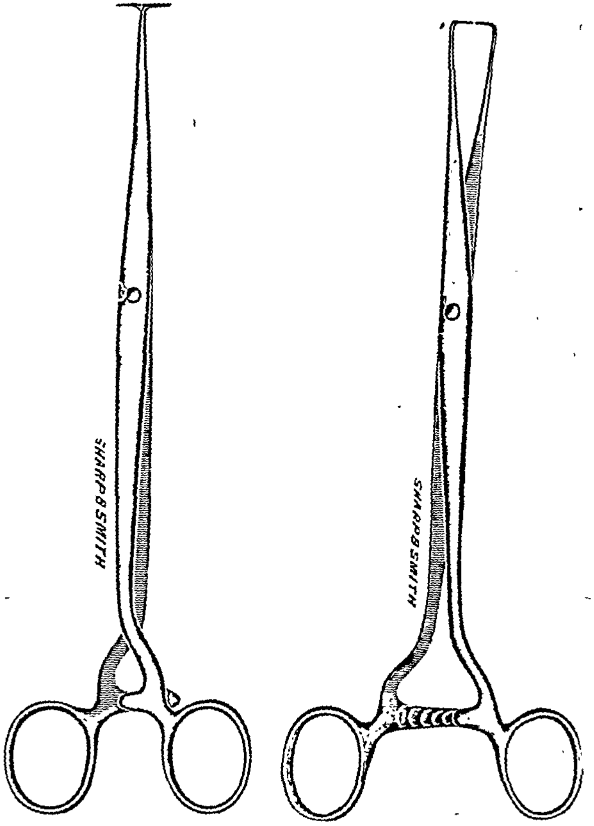

Fig. 1.—The author's tenaculum forceps. The blades can b made to pass each other and point outward without unlocking.

certain advantages which I hope will commend themselves in comparison with existing modes. We have seen the passing or reconstruction of the older methods within very recent times, but as yet there is no unity in choice of technique, and this lack of agreement perhaps lays us open to the sweeping criticism of Dr. von Ramdohr, who remarked that "as long as there are twenty-five methods of doing a thing none of them is good." This has only a measure of truth in it for the progress of surgery is marked by the passing of modification after modification of good methods, and the road still leads on to perfection.

Emmet himself—whose brilliant former work seemed so nearly the final achievement—has so far abandoned his famous operation for laceration of the cervix, that he limits its performance to cases which scarcely exist in modern practice, saying that, "with but few exceptions amputation is the proper means to employ . . . for relief of pathologic laceration of the cervix as it is now *met with.*"

There can be no dissenting from this proposition today, although it may not be out of place to note some of the views of recent writers on amputation as it is generally performed. Early in the history of the operation Pauly is quoted as saying, "Of all surgical operations, the excision of the neck of the womb has hitherto been the most murderous." Dr. A. Palmer Dudley, of New York, objects to th [illegible] ique, that is, the older method of [illegible], Pozzi, and others, on the ground that, "in closing the womb one is very apt to narrow the canal to the extent of obstructing the escape of the normal discharges from the uterus, thereby injuring the woman instead of benefiting her. Many can recall cases in which, before operating for laceration of the cervix they could recognize no disease of the uterine appendages, while afterward disease developed. Why? Simply because in repairing the cervix they closed it, prevented the normal discharge from the uterus, induced continual passive congestion of the endometrium and the disease then traveled up the tubes."

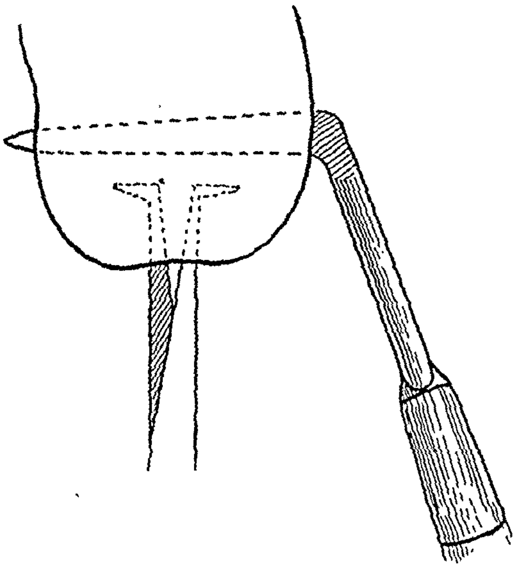

Fig. 2 a.—Cervix transfixed preparatory to making flap; forceps readjusted within cervix.

Hegar and Schwartz claim that the Sims method allows blood and serum to collect behind the sutures, and Thornburn considers the use of stitches unnecessary.

The "American Text-Book of Gynecology" says of amputation by the galvanocautery, which is still used by some, that its only commending feature is its bloodlessness. "Confidence can not be placed in it and it is therefore illegitimate."

The objection to removal of diseased cervical tissue by the curette is that in this organ, whose mucous membrane differs from that of the uterus in essential particulars, chronic inflammation causes a dense, firm tissue with deep glandular involvement which only a sharp curette thoroughly used can remove. Such removal is apt to result in constriction of the canal amounting to a severe stenosis or even atresia unless followed by tedious and objectionable after-treatment.

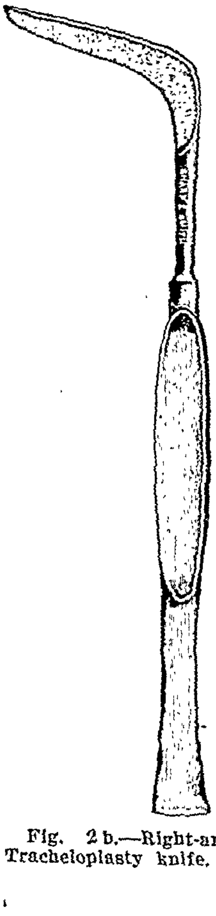

Fig. 2 b.—Right-angled or Tracheloplasty knife.

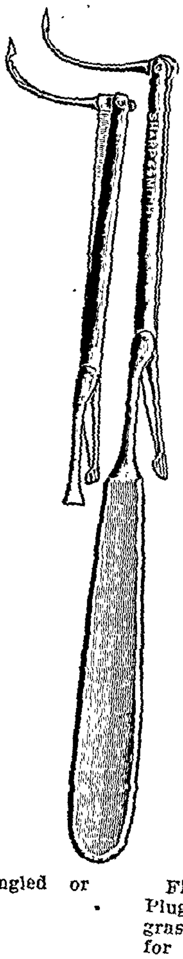

Fig. 4.—Needle with fixed holder.

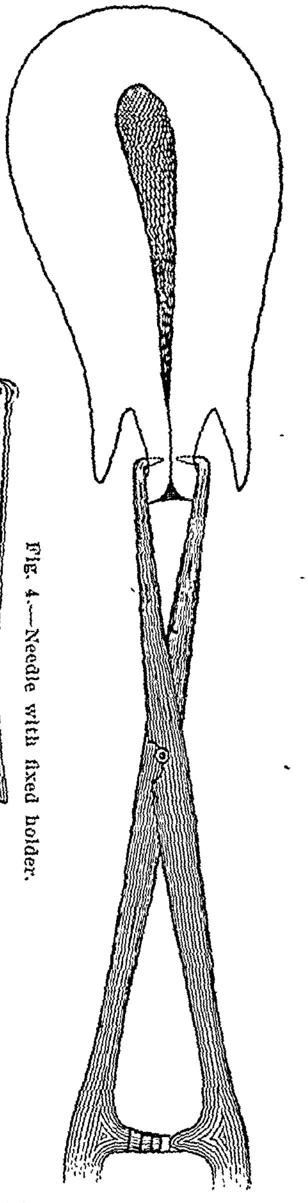

Fig. 3.—Formation of flaps. Plug of pathological *tissue* grasped by forceps and ready for excision with curved scissors just above the tenaculum points.

In advocating amputation of the cervix for inflammatory conditions, L. Touvenaint (France) says: "The curette, which gives excellent results in chronic corporeal endometritis, is altogether insufficient in cervical endometritis. The operation [amputation] gives brilliant results, preceded by curetting; we say preceded by curetting because it is rarely the case that inflammation of the cervix has not been propagated to the cavity of the body, and the endometritis become general. . . . Amputation is not done solely for the sake of removing a part of the organ; it possesses also the advantage of inducing profound modification in the vitality of the entire uterus, so that this undergoes a veritable involution."

The form of amputation which I practice, I prefer to call by a more distinctly descriptive name.

Revival of Term "Tracheloplasty."—Amputation conveys the sense only of the taking away of the diseased organ, whereas the object of ideal operating is the removal of adventitious tissue only, *the restoration* of anatomic conditions and re-establishment of normal function.

I had called my work tracheloplasty in reference to its nature and intent before I knew that Parvin had once given the same name to the early work of Emmett. As the latter never accepted it and as I find it most aptly fitted to my use, I have adopted it and shall continue to designate by it the following operation:

The Author's Operation.—The patient. being surgically prepared, is placed in the lithotomy position and the cervix drawn down with a vulsellum forceps, bringing the uterus well into view. The cervix is dilated and the uterus curetted if indications for curettage exist. These are, however, so nearly constant as to make it practically the rule. The cervix being drawn down with the bullet forceps or a double tenaculum, the blades may be reversed and replaced within the cervix so that their points are directed laterally from within outward, but I prefer to use the specially devised instrument which you see here. (Fig. 1.) By using it in this manner traction is made upon the inner area of the cervix, leaving the anterior and posterior walls free for making the flaps. The cervix is now transfixed by this special knife (Figs. 2a, 2b), and a clean cut made from above downward, first in the posterior lip. The anterior lip is transfixed in a similar manner about 1 or 1.5 centimeter in front of the other and cut in the same way.

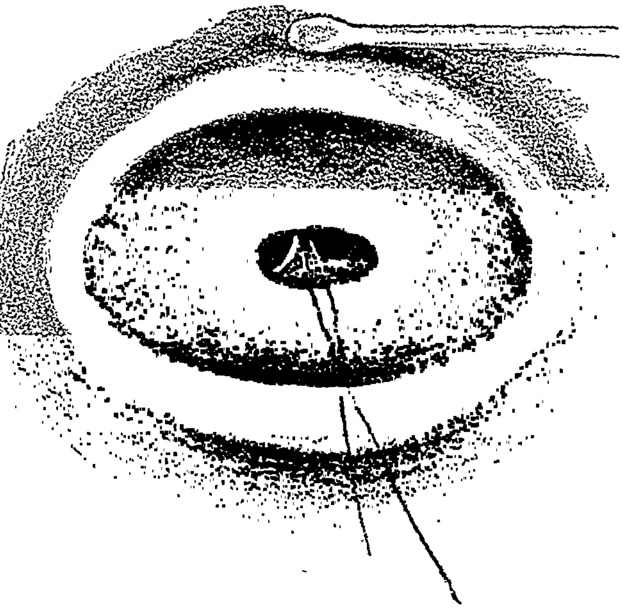

Fig 5.—The plug of the tissue is removed and flaps falling inward are ready for stitching.

The intervening plug of diseased tissue is now removed by a single cut or two of the curved scissors, the bullet forceps having been changed to a lower position to allow it. (Fig. 3.) The flaps thus made will now fall together and inward so as to assume the appearance of a normal cervix and will require only the simplest suturing to keep them in this position. (Fig. 5.) The first suture is passed through the center of the anterior flap. a centimeter or more from its cut edge. and brought out about three-fourths of a centimeter within the cervical canal. Two parallel stitches are now placed at each angle of the cervical canal. Silkworm gut is the suture material I commonly use, and the employment of this fixed needle and holder (Fig. 4) renders an otherwise difficult procedure quite easy. The posterior lip is treated in the same manner, except that here it is easier to pass the sutures from within outward, while the reverse is true in sewing the anterior lip. Two sutures are now passed, as in trachelorrhaphy, through the outer angles of the wound, which gape slightly after the turning in of the flap. For nice adjustment of the stitches and for ease in removal I am in the habit of treating them this way: In tying the sutures one end of each is left long and these long ends are grouped by tying them together according to their location. The three anterior sutures form one group, the three posteriors one group, and the two lateral sutures are tied together, a pair on each side, making four groups in all. (Fig. 6.) A uterine tampon of iodoform gauze or wicking is now inserted by means of this forceps and tampon-carrier (Fig. 7), a projecting strand being attached to the vaginal gauze tampon in order that both may be removed without undue disturbance of the parts. If no accessory work is done the usual perineal dressings are applied and the patient put to bed. The external genitals are bathed with antiseptics after micturition, but no douching of vagina or disturbance of tampons is allowed until the second or third day, when the entire tampon is removed and not replaced. Vaginal douches of 1 to 4000 bichlorid are then used twice daily. The sutures are removed at the end of two weeks, when the patient can be up.

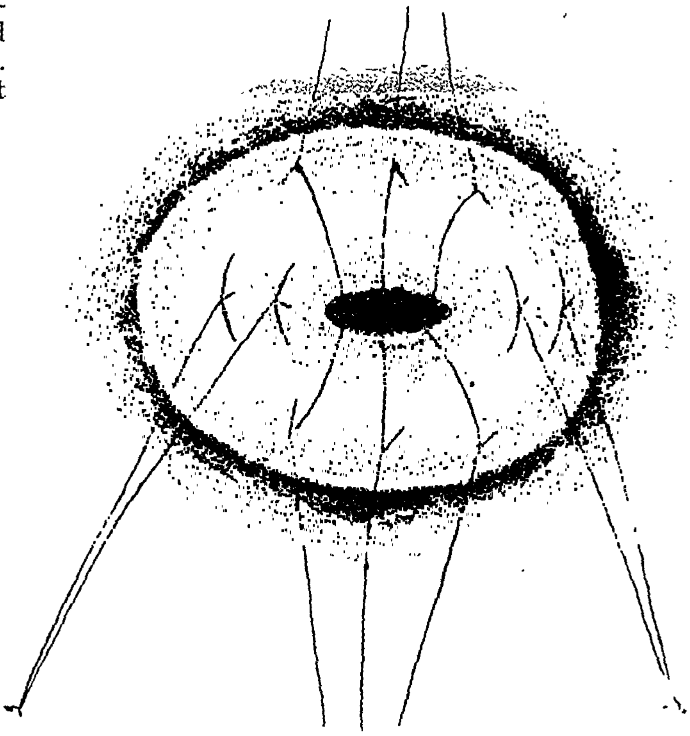

Fig. 6.—Showing stitches in situ and manner of tying in groups.

The advantages of this method are: 1. Quickness and ease of operating by the knife here presented, the manner of making the flaps transcending in certainty and safety of execution the ordinary methods of excision. 2. Clean, smooth-cut surfaces, obtained without haggling of tissue. 3. The easy approximation of flaps and the avoidance of all hemorrhage beneath them by deep placing of suture and compression of the flaps. 4. The accurate approximation of mucous membrane to mucous membrane, thus avoiding granulating surfaces, formation of cicatrix and constricting of the canal. (This feature, which also pertains to Schroeder's operation, is of great importance and a decided advantage over trachelorrhaphy, especially where the entire mucous membrane is removed.) 5. The certainty of obtaining a permanently patulous canal and a well-formed cervix with pronounced reduction of the hyperplastic uterus. 6. The simplicity of the after-treatment.

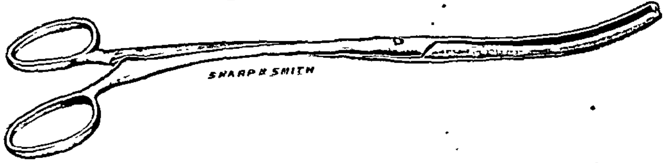

Fig 7.—The author's tissue forceps and uterine tampon carrier.

Finally, plastic gynecological work, to be ultimately successful, should not be done piecemeal. The operation I have described is seldom called for alone. The neglect to do necessary complementary operations brings frequent failures. While tracheloplasty will often correct a simple displacement of the uterus due to inflammatory conditions with increased size and weight by correcting the lesion of the cervix and the accompanying metritis and by stimulating involution, its value may be greatly enhanced by such reinforcing work as shortening the round ligaments or suspensio-uteri where there is displacement of the uterus; divulsion and curetting when disease has extended to the endometrium above; reparation of the pelvic floor when, through relaxation or trauma in childbed, there is hernial condition of rectum, bladder, vagina or superimposed viscera; even opening of the abdomen for plastic work or resection in pathological conditions of ovaries, tubes, etc.

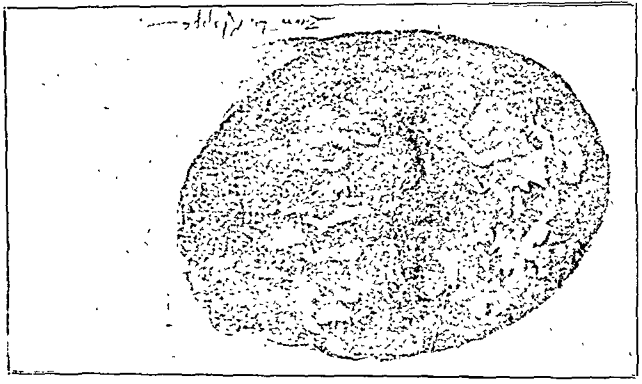

Fig. 8.—Excised cervical tissue.

Any one or all of these accessory operations may be necessary to the restoration of the patient, although the diseased or deformed cervix was the essential, perhaps the sole, etiological factor in her case.

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BIBLIOGRAPHY.

Touvenaint, L.: Rev. Internat. de Méd. et de Chir., Paris. 1898, ix, 21.

Martin, A.: Normandie Méd., Rouen, 1898, xiii, 29.

Del Vecchio: Rassegna d'ostet. e gynec., Napoli, 1897, vi, 129.

Labusquiere, R.: Ann. de gynec. et d'obst. Paris, 1897, xlvii, 318.

Emmett, T. A.: Am. Jour. Obst., N. Y., 1897, xxv, 858.

Pichevin: J. de med. de Paris, 1897, 330.

Tarnier: J. d. sages-femmes, Paris, 1897, xxv, 273.

Henry, W. O.: St. Louis Med. Rev., March 29, 1897.

Audebert: Ann. de gyn. et d'obst., Janvier, 1898.

Byrne: Transactions of the Am. Gyn. Soc., ii, p. 57.

Montgomery, E. E.: Therap. Gaz., 1895, 726.

Dudley, A. P.: Trans. Am. Gyn. Soc., xx, p. 305.

Markwald: Archiv f. Gyn., Bd. viii, p. 48.

Schroeder: Zeit. f. Geb. und Gyn., iii, p. 419.

Ashhurst: Encyclop. of Surgery, vi, p. 679; Am. Text-Book of Gyn., p. 371.

THE PHYSIOLOGIC CARE OF COLDS.*

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That the condition called a cold is one of repletion, may be readily demonstrated. Among other evidences of this is the fact that treatment based on this theory is uniformly successful. Its acquisition is frequently attributed to some exposure, it may be from lack of wearing apparel, or from atmospheric changes. But a closer examination will show this to be an erroneous conclusion, for on many occasions the observer has been exposed to a great variety of changes without any cold resulting therefrom, when again, under other conditions, with the slightest exposure, in even the hottest weather, one may suffer from the hardest kind of a cold. This results from imperfect elimination, or an inactive condition of the excretory organs. In fact it is the condition of the individual, rather than his exposure. The impurities of the system are being discharged through the mucous membrane, particularly of the head, instead of the proper eliminating organs. Many a time has this condition been brought about by a too-generous dinner. The sudden changing from heat to cold, by going from a warm room to the cold air of outdoors, when a person is debilitated and of feeble reactive powers, frequently produces the condition called a cold. Any overwork or exhaustion of the nervous system places the body in a negative state, so that there is less power of vital resistance to morbific changes. A languid, exhausted feeling is often accompanied by a headache, or inactive stomach and bowels. If the ordinary amount of labor is imposed upon those organs while in that condition, it is necessarily most imperfectly performed. Then is the body poisoned by its own impurities. Too frequently tonics are taken to spur on and still further exhaust an already weakened system.

In looking for the cause of colds, or any other disease, it is well to consider the first cause, rather than the merely exciting or secondary one, which is only incidental to the disturbance. By doing this we can shape our life so as to avoid most of the disasters common to modern civilization. Ignorance of the laws of life, and of man's relation thereto makes of him a slave, while knowledge of these laws gives him freedom to instantly accept and enjoy the fruits of obedience.

The invariable cause of colds come from within, not without. No one takes cold when in a good vigorous state of health, with pure blood coursing through his body, and there is no good reason why any one in ordinary health should have a cold. It may come from insufficient exercise, breathing of foul air, want of wholesome food, excess of food, lack of bathing, etc., but always from some violation of the plain laws of health.

There can be no more prolific cause of colds than highly-seasoned foods, as well as frequent eating. These give no time for the digestive organs to rest, and incite an increased flow of the digestive secretions. Thus larger quantities of nourishment are absorbed than can be properly utilized, and the result is an obstruction, commonly called a "cold," which is simply an effort of the system to expel the useless material. Properly speaking, it is self-poisoning, due to an incapability of the organism to regulate and compensate for the disturbance.

A deficient supply of pure air to the lungs is not only a strong predisposing cause of colds, but a prolific source of much graver conditions. Pure air and exercise are necessary to prepare the system for the assimilation of nutriment, for without them there can be no vigorous health. The oxygen of the air we breathe regulates the appetite as well as the nutriment that is built up in the system. The safest and best way to avoid colds is to sleep in a room with the windows wide open, and to remain out of doors every day, no matter what may be the weather, for at least two hours, preferably with some kind of exercise, if no more than walking. One should not sit down to rest while the feet are wet or the clothing damp. A person may go with the clothing wet through to the skin, all day, if he but keep moving. Exercise keeps up the circulation and that prevents taking cold.

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*Presented to the Section on Physiology and Dietetics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The physiologic care of colds is the prevention of their occurrence. The person who does not carry around an oversupply of alimentation in his system, and furthermore secures a purified circulation by strict sanitary cleanliness, thus placing himself in a positive condition, is immune to colds. A starving man can not take cold.

A careful diet would exclude the use of all narcotics, and of all food that is not thoroughly appropriated. An overfed person is worse off than one who is underfed, because the overfed body is taxed to dispose of what can not be appropriated, and when not properly disposed of, remains only to be an element of danger.

Inasmuch as a congested condition of the mucous membrane of the head and throat is always present in case of colds, and the breaking up of this condition is the prime requisite, and as elimination is the most powerful measure of relief, it is a source of gratification that, in the proper use of heat, we have the most powerful eliminating agent that is known. The most convenient and effective form of utilizing heat on the human economy is by the modern Turkish bath. It has been thoroughly tested in thousands of cases, and never known to fail. Its action is so positive that relief follows promptly on its application. At such times there is a determination of blood and nervous energy to the mucous membranes. The action of heat relaxes the tissues, thereby inviting a normal circulation through the congested parts and changing this determination to the surface and extremities, thus restoring the balance to the circulation, and at the same time unloading the system of its impurities through the skin and other natural excretories, instead of the internal mucous membrane.

All the various effects that follow what is called "taking cold," are traceable to the skin's failure to send off waste in the insensible perspiration. The catarrh which shows itself in a discharge from the nostrils is a very clear effect of this failure of the skin. The substance which ought to pass away in insensible perspiration forces its way through the membranes of the nostrils in a thickened state, only because it is not sent off by the chilled and deadened skin. If the skin was doing its work, this effect could not possibly occur.

During a cold the system is struggling to rid itself of impurities through the Schneiderian membrane, where the sense of smell is located. This is naturally very tender and sensitive, and is made more so by the abnormal condition. The Turkish bath enforces a derivative action, and the discharge is largely carried off through the external skin and no longer remains a source of irritation. The normal balance is restored, and if utilized at the outset relief is prompt. The heat opens the sluice ways of the skin, and the system is quickly unloaded of what has been blocking the outlets, but in the later stages, and when the whole body is burdened with debris, the result of a long infringement of the laws of health, a persevering course of treatment is required. The Turkish bath is equal to this emergency, and may be desirable twice a day. Furthermore this bath is reconstructive, for it not only removes from the blood its used-up material, but hastens on the new supply of invigorated blood, and thus every function of the body is quickened. It also removes the superfluous accumulations of the outer layer of the skin and enables it to complete the perfect work of reconstruction. In cases where pneumonia has developed, its action is most salutary. One of the latest cases was fully restored inside of two weeks from the onset of the disease.

The primary cause of all disease is internal. No disease develops in the body from any accidental or secondary cause without the co-operation of the fundamental one. Health is the harmonious action of all the functions. There is no doubt that the larger amount of disease comes from unsuitable food, producing abnormal conditions of the blood. Too frequently there is a wrong selection of food, and often an imperfect preparation of that which of itself is good.

Inasmuch as people are inclined to cater more to the taste and fancy, rather than to consider the hygienic value of their foods, the result of their feeding is sure to produce a state of inharmony. The blood can not thus be furnished with the proper elements for forming healthy tissue. Man does not live by what he eats, but by what he digests and appropriates. Health is man's normal condition. No ache or pain should trouble any human being until death comes naturally at the end of a long life. If this desideratum is not secured, there is evidently some mistake in the dietetic habits.

Frequently the body is pickled with common salt, which is equivalent to saying it is poisoned by it. The salt dissolved in the blood passes into all the tissues. Osmosis takes place. Through the cell membranes the salt enters the cells and the cell contents pass out. These constituents, freed from the tissues, must be excreted through the kidneys as waste material. Thus degeneration takes place, through the abuse of common salt, and the system is made more susceptible to colds.

The practice of administering quinin to break up a cold is to be condemned, because it debilitates the nervous system and weakens the action of the heart. The same may be said of any alcoholic medicament, because the nervous system is first irritated and afterward depressed by its use. In fact when the system is laboring in an effort to free itself from any obstruction, the presentation of a powerful agent that interferes with elimination is not only uncalled for, but decidedly injurious, because it prevents the natural forces from doing their perfect work.

When people understand that disease is a vital struggle, an effort to protect and defend the organism, that it is not a thing or entity, foreign to the system, but an action of the system itself, which seeks its preservation, not its destruction, they will cease to fear it; they will only fear its cause.

To make a radical cure of a cold, let the patient abstain entirely from food for at least twenty-four hours. Should the bowels be at all inactive, it is desirable that they be thoroughly flushed with warm water. Drink freely of pure water, taking a brisk walk in the open air, and then a Turkish bath. This may well be followed by an oil-rub, sometimes called a Roman bath, which mollifies the skin, making it more flexible and active. He will find a permanent benefit therefrom. The internal pressure will be relieved, and the cure perfected. Necessarily chronic cases need more persevering treatment, but each day will show progress, and only perseverance is needed to triumph ultimately over the morbid action. This fact is important, for it is claimed that 75 per cent. of the inhabitants of New York are constant sufferers from some form of colds. If they were always promptly and properly treated there would be many less cases of la grippe, pneumonia, or even consumption to be cared for. It would be like turning the stream in the right direction at the fountain head. We well know that many victims of la grippe do not regain their normal condition of health for several years afterward.

When the above plan is faithfully carried out, the individual is free from any symptom of disease, rarely finds a handkerchief necessary, or even a need of clearing the throat. The converse may be quickly proved by a short season of greasy and highly-seasoned food, and an extra meal added to the usual supply. The old proverb, "Stuff a cold and starve a fever," is an absurdity, for one suffering with a cold has already an inward fever on hand, and the more he is stuffed the worse he will become. Stuff a cold and you will be sure to have a fever to starve. One authority says that living on fruit for two or three days and drinking freely of hot or cold water, with milk for nourishment, will often cure an ordinary cold. Some persons, by drinking freely of cold water and exercising vigorously, can easily throw off a cold.

All harassing forms of coughing can be avoided by simply obeying the laws of health. The cough is a process of nature to relieve itself of impurities which are then thrown off by the mucous membrane instead of by the usual excretory organs. By purifying the system, by eliminating the impurities through the natural channels, we relieve the determination of the blood and nervous energy to the mucous membrane, and the cough vanishes. By freely drinking of hot water every hour, this happy result can be materially hastened. This is much better than taking the ordinary cough mixtures, which disorder digestion and spoil the appetite. The water should be taken as hot as can be borne, and relieves by promoting the secretions as well as the expectoration.

A simple "cold in the head" may be successfully treated by drawing hot water into the nostrils and then blowing it out, repeating the process several times, until the nose is thoroughly cleaned. This is a simple and effective way of strengthening the membranes. It is both soothing and curative, and may be done morning and evening while washing the face. Whenever hoarseness is apparent, the one remedy is rest. Like other disease, a cold is not a thing which leaves no trace. It should be treated with as much care as would be given to many other diseases. If neglected, it is liable to bring on serious complications. Every period of disease through which a person passes, whatever its nature, is a permanent impairment of the vitality. Therefore, catching cold, or the beginning of any disease, is to be avoided as much as that of losing a valued possession. Lack of attention to such matters causes one to grow old sooner than he otherwise would.

For those in fair health, the practice of cold bathing in the morning is to be commended, particularly if a warm shower precedes the cold, or a short season in a warm room precedes the cold plunge. This is then most invigorating, and helps to tone up the skin to be unmindful of external changes of temperature, and the person less liable to take cold. But of all baths, the Turkish ranks at the head. For those who aim at the highest efficiency of bodily vigor, there is nothing more helpful than that of indulging in its sanitary luxuries at least once a week.

Few realize the many advantages of pure water for drinking. We pay a great deal for water that is impregnated with this or that salt, while the more it is impregnated with any foreign substance, the less valuable is it to the human economy. One great desirability of pure water is that it will dissolve, and thus help to eliminate, morbid accumulations from the system, wherever they may be lodged, whether they may be granular, crystalline, or calcareous. This is one of Nature's processes to save the health and life of the body. An eminent physician claims water to be a food, indispensable to all mankind. It certainly makes up the largest part of our bodies, is one of God's best gifts to man, and should be freely indulged in.

The surest safeguard against all disease is a purified and well-balanced circulation in a well-nourished body. The Turkish bath properly used secures the first, and a careful diet, combined with a moderate amount of exercise and out-door life, will secure the second. It is our unnatural, artificial mode of living which gives rise to all disease, or at least to our predisposition to disease.

There must be a certain definite way of living for every species of animal, and certainly for the human race. A transgression from this rightful way must in some manner alter the normal composition as well as the reactive power of the body. A man living on bread and milk differs in appearance, and the condition of his tissues from one whose food is highly seasoned, and who uses alcoholic drinks, together with tea, coffee, and tobacco. These narcotics have enormously assisted in the rapid degeneration of civilized mankind in this latter half of the nineteenth century, nor can we expect to see any great improvement unless the subjects of health and hygiene, the very foundation of life and wisdom, are taught to the rising generation in our schools.

Such an important matter as alimentation, the foundation and mainspring of bodily and mental, individual and social health, deserves the best work of the ablest minds. Physicians may indeed be proud to help in this cause, and thus take their rightful position as leaders in hygienic and medical matters. What is largely needed is a clear insight into the beneficial or harmful action of the habits of daily life upon the body. When physicians are appointed by the state as teachers of hygiene, a new era will be entered upon, and the physiologic care of colds will receive its due meed of attention.

Spontaneous Rupture of the Uterus.—Jardine recently reported (*Glasgow Med. Jour.*, April) a case of this rare complication during labor, in a woman aged 32, vii-*para*. When admitted to the hospital there had been some hemorrhage, but it had ceased. The os admitted two fingers. The head presented in the first position. She was having regular pains, the pulse was good and there was no over-distension of the uterus. Three hours later she had three severe pains in quick succession and collapse. Delivery was made by forceps and the tear in the uterus plugged, but the patient died in a few moments. The rupture extended almost to the fundus on the left side, the vaginal portion evidently having given way during the delivery.

ATROPHY OF THE MUCOUS MEMBRANE OF THE STOMACH.*

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While much has been written upon this disease by different authors, comparatively few cases have been reported, and many of the cases which are reported under this heading are worthless because the diagnosis is made simply upon the absence of free HCl in the stomach contents. It is due to Fenwick[1] who, in 1877, was the first to call attention to this condition of the stomach as an independent disease, particularly as to the question of its being incited, or caused by, and having relation to, pernicious anemia, that we acknowledge our obligations to his efforts. Since that time a large number of authors, Ewald,[2] Nothnagel,[3] Osler,[4] Kinnicutt,[5] Einhorn,[6] and others, have employed themselves in a more exact study of this disease under the different names of atrophy of the mucous membrane of the stomach, achylia gastrica, atrophia gastritis, phthisis ventriculi, catarrhus atrophicans, *anadnie des Magens*, etc. It would occupy too much space at this time to attempt to follow out the evolution and development of this question by the authors mentioned. In my own experience in diseases of the stomach and intestines, it has been impressed upon me that this condition is not so rare as it is commonly supposed to be. I have, therefore, thought it might be of interest to the profession at large to mention a few cases taken at random from a large number of histories, and to give a line of treatment which has been successful in my hands. I have also included a few cases, for comparison, which appeared at first to justify a diagnosis of atrophy, but which proved later to be achlorhydria, or simply achylia without the permanent organic change in the mucous membrane. Most authors have associated this condition with pernicious anemia, which is a fatal disease. This seems to me to be wrong, for, in the first place, as will be seen further on, patients with atrophy may enjoy apparently good health and long life and, in the second place, a positive diagnosis of this condition should not be made until all justifiable means of treatment have been exhausted and repeated examinations fail to show any sign of a return of the stomach secretions.

Clinically one may speak of achylia gastrica where, upon analysis of a test-meal, there is found to be a greater or less disappearance of gastric secretions, but one can only speak of an atrophy of the mucous membrane of the stomach where, after repeated examinations under different conditions and at various periods after the ingestion of food, there is a complete absence of all normal constituents of gastric juice. It is often the case that only the free HCl is absent, and the conclusion is too hastily drawn that we have to deal with a case of atrophy of the mucous membrane, while it is a question of the disappearance not only of the free but also of the combined HCl which concerns us in making a positive diagnosis of atrophy, and it is only where, after a test-breakfast or test-meal the stomach contents are either neutral or quite low in total acidity, namely from four to six, that one can say without further examination that the secretion of gastric juice, and consequently HCl, has completely disappeared. Where simple acidity exists one can suppose without further examination that he has to deal with an achlorhydria.

I wish to emphasize a point which I brought out in a former article,[7] and regarding which a false impression seems still to exist in the minds of many practitioners. I refer to the impression that the absence of free HCl is a cardinal sign of malignant disease. This is not the fact at all, as will be seen in the cases I am about to cite, none of which has shown any symptoms whatever of malignant disease. Besides I have seen many, many cases of acute and chronic gastritis in which no free HCl can be demonstrated. On the other hand, I may mention here that I have but recently seen two cases with free HCl, one in fact with a hypersecretion which proved at operation to be carcinoma. My experience corresponds with that of Einhorn, that as a general rule, in cases of atrophy of the mucous membrane of the stomach, there exists a condition of chronic diarrhea, although, as will be seen, there are exceptions to this rule.

Case 1.—Mrs. C., aged 61, had always been a remarkably healthy and active woman until five years ago, really appearing to be ten years younger than her true age. Her trouble began with attacks of watery diarrhea, without pain, three to five movements a day, but coming so suddenly that she was prevented from going into society, to the theater, etc. The attacks increased in frequency and were brought on by over-fatigue and anxiety; her condition would improve by rest and change of scene, although she was never quite well nor entirely free from her trouble during all those years, and had gradually lost flesh and strength to the extent of 38 pounds actual weight. Her appetite was poor, tongue coated, and when I first saw her she was living on one quart of milk a day, having had her diet restricted by one physician after another until she was afraid to take anything else. She was extremely nervous and had had two or three recent attacks of vomiting and syncope. Examination of the stomach contents one hour after the Ewald-Boas test-breakfast revealed the absence of all stomach secretions; reaction neutral; bread unchanged. The patient was put upon a gradually increasing diet of farinaceous food finely ground and well cooked, white bread and butter, milk, and later eggs, meat and fish were added until the following program was established at the end of the first week:

7 a. m.: A glass of milk with two thin water biscuits and butter, taken in bed. 10 a. m.: Breakfast of two eggs heated through, a cup of weak tea with sugar and milk, and white bread with butter. Between 11 and 12 a drive in the open air. 1 p. m.: Luncheon of broiled lamb chop or chicken, rice, white bread with butter, mashed or baked potatoes, followed by complete rest for one hour. Between 3 and 4, another drive or a short walk in the open air. 4 p. m.: A glass of milk with one raw egg beaten up, or an egg-nog. 7 p. m.: Dinner of chicken soup, a piece of broiled steak or roast beef, bread and butter, baked potato, or rice or hominy. 10 p. m.: A glass of milk with two water-thin biscuits with butter. The rice and hominy were varied with other cereals to suit the taste of the patient, and she was urged to let her meals consist principally of cereals with milk and to eat at least three or four ounces of butter a day.

Improvement was manifest from the first, and during the second week of her treatment she was attending opera four hours long, visiting with her friends, and by the third week was making engagements with her dentist. She was under observation and treatment for about four weeks, and, during that time, had but two slight attacks of her trouble, due to over-fatigue. Five weeks from the beginning of her treatment I received a letter saying that she felt perfectly well, had gained 10 pounds and was enjoying life with an excellent appetite. The treatment of this case was very simple, but the patient had been under the care of a number of physicians who had exhausted the list of astringents and diarrhea mixtures without any permanent results, and had finally excluded so many things from her diet as to cause serious loss of flesh and great anxiety on the part of her children and friends.

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*Presented to the Section on Physiology and Dietetics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Case 2.—Mrs. M., aged 51, whose mother died of carcinoma of the stomach at 57, and a brother of carcinoma of the face, had lost three brothers and sisters with cholera infantum. The patient herself had had considerable trouble with her stomach and bowels for the past twenty years, characterized chiefly by watery diarrhea and vomiting. She had been accustomed, in her younger days, to rich dinners with wines at all hours of the night or day, but of recent years has lived almost exclusively on milk, malted milk, and other prepared semiliquid foods. Solid food in any form causes her pain and immediately brings back her trouble with renewed severity. Opium in large doses has been her chief anchor for several years, and she has taken so much of the drug that the characteristic color of the skin is marked. One year ago she weighed 253 pounds. Her weight at the time of her first visit to me was 175 pounds, showing a rapid wasting of flesh in a comparatively short time, so that the skin hung in loose folds. Chemical examination of the stomach contents one hour after an Ewald-Boas test-meal gave total acidity 12; free HCl, 0; combined HCl, 5; lactic acid, 0; rennet, 0.

In addition to the usual hygienic measures which I prescribe for every patient who is not already living up to them, I advised her to enlarge her diet somewhat cautiously, adding first zoolak, kumyss, malted milk and farinaceous food-stuffs finely ground and well cooked; absolute rest one-half to one hour after each meal; massage three times a week. Improvement began at once, and we began to enlarge the diet list, adding raw or soft-boiled eggs and the well known junket made with milk, eggs and Fairchild's essence of pepsin, any of the cereals except oatmeal, which were finely ground and the outer shell removed, plenty of bread and butter; but the first attempt at giving meat or any irritating substance whatever would immediately cause the return of her trouble. Repeated examinations of the stomach contents at various periods after eating always showed total acidity of from 4 to 20, never any free HCl, never any lactic acid except when milk had been taken with the previous meal. The patient gained in strength and her weight increased during the winter to 194 pounds. Examination of the blood showed the percentage hemoglobin to be 60, with slight change in the size and shape of the red blood-corpuscles. I advised simple regulation of the diet to suit intestinal digestion, regular habits of life, avoidance of all fatigue or nervous strain, and a period of complete rest in the middle of the day, with the simple medication to be mentioned hereafter, and this seemed to meet all requirements.

This, no doubt, like Case 1, was one of real atrophy of the mucous membrane of the stomach, but not incompatible with health under proper regimen, for I have seen the patient but once professionally during the past eighteen months, and that was for an attack of la grippe.

Case 3.—Mrs. H., aged 41, whose main trouble was characterized by attacks of diarrhea without explainable cause, between which attacks the bowels were usually quite regular, was very rarely constipated. She complained of backache, of being easily exhausted, and had lost considerable in weight during the year. The appearance of the patient and her group of symptoms led me to make an analysis of the stomach contents one hour after the Ewald-Boas test-breakfast, with the following results: quantity in the stomach, 90 c.c.; total acidity, 6; free HCl, 0; rennet, 0; lactic acid, 0. A farinaceous diet with a limited amount of light meats, fish and whites of eggs was prescribed for this patient, with rest in the middle of the day and fresh air.

This case especially brought out how well one may be with this condition of the stomach. With little or no treatment aside from regulation of her daily life, and with very little restriction of diet, she gradually improved and now eats almost everything she fancies, and she feels perfectly well so long as she avoids over-fatigue.

Case 4.—Miss S., aged 23, came to me in November, 1899, with the history that for two years she had been troubled with looseness of the bowels unfitting her for work, or even social duties, continuing more or less throughout the entire year, but aggravated during the warm weather. She had become very much worried and discouraged over her condition, as she had tried several physicians with no more than temporary relief. Her appetite was good, her habits temperate, physical examination negative; analysis of the stomach contents one hour after a test-breakfast of a roll and a glass and a half of water resulted as follows: Total quantity of chyme, 135 c.c.; mucus present in moderate amount; chyme in good state of digestion; total acidity 30; free HCl, 0. Four hours after a test-meal consisting of two soft-boiled eggs, a cup of coffee (half milk), one roll and a glass of water, total quantity of chyme 150 c.c.; total acidity 32; HCl, 0. Starch digestion had reached the stage of maltose. The patient was put on a farinaceous diet, ordered to take a cool sponge bath every morning, exercise at least once a day in the open air—short of fatigue—and to put her mind at rest as to her trouble, since it was not dangerous and she would soon be all right. The patient improved immediately, began to gain in weight, and I have since received assurances from her by mail that she is perfectly well.

Case 5.—Mr. P., aged 47, gave a history of gastric disturbance extending over a period of years characterized by excessive flatulency coming on some time after eating and associated with severe frontal headaches; appetite good; bowels very constipated; tongue coated with a white fur; habits temperate but sedentary. Physical examination was negative. One hour after an Ewald-Boas test-breakfast, the stomach contained 135 c.c.; considerable mucus; total acidity, 6; free HCl, 0; rennet, 0; starch digestion, maltose. The urine was of high specific gravity with a large amount of urates and uric acid.

The patient was put upon a farinaceous diet, milk and Celestin vichy between meals, with a cold sponge bath every morning and outdoor exercise. Improvement began immediately, the patient taking up golf for his outdoor exercise. He was very faithful and regular in his treatment, and in a reasonable time was able to partake of a very general diet, although chemical analyses of the stomach contents showed, from time to time, a low total acidity and no free HCl, but he enjoyed his food and his daily life and a general sense of well-being.

The essential points in this case, which I wish to bring out most prominently, are: 1, contrary to the general rule in this class of cases this man was troubled with constipation, the rule being that these patients suffer from diarrhea; 2, and most remarkable, after one year of faithful and almost continuous treatment, except for a vacation trip now and then, taken as a diversion, the total acidity increased, free HCl and the rennet ferment reappeared, and there was also improvement in the motor power of the stomach. A recent analysis of the stomach contents one hour after a test-meal showed the quantity of chyme to be 50 c. c.; total acidity 40; free HCl, 20. This patient now comes to my office only occasionally for lavage or electricity, as circumstances indicate after some transgression in diet, or following some unusual nervous strain.

TREATMENT.

As to the indications for the treatment of these cases, first comes the regulation of the daily life, baths, exercise —active or passive—and rest. These I have already alluded to, but I wish to refer again to the diet, which is most important of all in the successful treatment of this affection. As has already been seen, we must depend on farinaceous food, and the patients must be urged to ingest larger quantities than they will feel inclined to take, for they should not be starved. While I do not believe in assisting any healthy organ of the body in doing its physiologic normal work, there are times when an extra amount of work is or must be thrown upon certain organs, and we are obliged in such cases to furnish some assistance to those organs or our patient will suffer in health. As in hyperopia, to borrow an illustration from ophthalmology, we must advise convex lenses to relieve the extra strain, so in the cases under discussion we must in reason look for some diastatic ferment to aid the intestines in the additional work thrown upon them. I have tried many of these ferments, of which the market is to-day full, but will in this article illustrate but one in which the laboratory experiments have been borne out in actual practice with my patients. To test the accuracy of my conclusions I made a number of experiments in the laboratory with a view of ascertaining what action the actual gastric juices have upon starchy digestion. The result of these experiments was the demonstration of the fact that taka-diastase will act upon and digest starch in the presence even of gastric juice of hyperacidity. Past records in medical chemistry show the difficulty of measuring quantitatively the digestive power of any diastatic enzyme on starchy food. This difficulty is due to the fact that so far all known methods for the determination of sugar are of such complicated nature that even expert chemists can carry out only a few tests in the course of a single day. Hence, while this determination of the digestive powers of saliva and artificial or natural enzymes or diastatic preparations could not be made use of for medical or clinical purposes, I have found a very simple yet sufficiently accurate method of determining the digestive power of these diastatic agents. This method can be carried out easily by practicing physicians, and it has the advantage of requiring only a few minutes. It is based upon the fact that the products of conversion or digestion formed by the action of saliva and other diastatic substances upon starchy food have the power of decolorizing or absorbing the color of iodin compounds after different stages of digestion of the starch. When diastatic bodies are allowed to act upon cooked starchy foods, the first stage of digestion is their conversion into soluble starch, which conversion is indicated by the formation of the blue soluble color on the addition of iodin solution, while the original cooked starch forms an insoluble blue compound with iodin. The further action of the diastatic bodies upon the soluble starch is the formation of dextrin, which is indicated by a reddish-brown color when iodin is added. Between the foregoing two stages of digestion there intervenes a stage when the soluble starch and dextrin are mixed in various quantities, which are indicated by different grades of purplish color showing the different mixtures of soluble starch and dextrin. When the digestion goes still further it reaches a condition where the product of digestion forms a colorless compound with iodin, such as different kinds of acrodextrins and different forms of sugar. That is to say, during the course of digestion at its early stage, the iodin forms a product of different colors, and while it advances and completes the digestion this iodin coloring compound is changed into a compound which will give no color when mixed with iodin.

I have also found that if this non-coloring or acro-compound of iodin and starch be added to the coloring compound of iodin and starch, the former absorbs the color of the latter, or bleaches it, making the mixture colorless.

I wish now to describe this process—based on the application of these facts—for determining the digestive power of the saliva, or other artificial or natural diastatic substances. In this process there are four glasses. The first contains water, to which we add some cooked starch. The second also contains plain water, which will represent a neutral medium, to which we add some cooked starch and taka-diastase. The third glass contains gastric juice without free HCl and a low total acidity—this is the condition always found in the cases under discussion. In the fourth glass we have gastric juice of a very high acidity with an excessive secretion of free HCl; to both of these latter we also add cooked starch and taka-diastase. I have chosen this last specimen to illustrate that taka-diastase will work in an acid medium, although it works much better in a neutral medium or one of low acidity. We now take four test-tubes, in each tube we put 20 minims from each of our four glasses. To each I now add two drops of a solution of iodin. In the first tube we find the blue color characteristic of iodin and starch. The second tube exhibits a purplish color, as do also the third and fourth. Now, why does tube No. 1 show a different color from the other three? If we examine the constituents, we find that the three latter contain an element, namely taka-diastase, that is not present in the first tube. Now, in order to determine quantitatively the degree of the digestion, we go back to the four original glasses. Add a quantity of the contents of the first glass to the first test-tube, and we observe that the blue color is increased; no matter how much we add there will be no change in this solution, showing conclusively that there has been no starch digestion. In like manner add some of the contents of the second, third and fourth glasses to the second, third and fourth test-tubes, and in just the proportion that starch digestion has proceeded we find a disappearance of the blue, showing the approach of the digestion toward the end product, which is maltose. You will observe that the taka-diastase has acted most completely in the neutral medium, but exceedingly well in the gastric juice of low acidity, and fairly well in the gastric juice of hyperacidity; and we all know that this latter is fatal to the ptyalin ferment of the saliva.

In addition to the foregoing treatment of these cases we must give at first some mild astringent which will be at the same time a disinfectant and tonic to the intestines. For this purpose my two favorite drugs are tannigen and tannalbin.

As we frequently find also, in this condition, more or less anemia, I use some form of iron which will not disturb digestion, usually some one of the preparations of peptomanganate of iron. I am often asked by physicians taking a course with me why I do not use dilute HCl and pepsin more often in these cases. I may say that I have often tried it but have obtained no results either in laboratory experiments or in practice which justify its continued use. If ever a case seemed to demand these drugs, Case 2 was an ideal one, but trial quickly proved their uselessness, for they only increased the disturbance and had to be abandoned immediately. When there is much mucus I use lavage and an intragastric spray of nitrate of silver solution, 1 to 1000. In all these cases I use intragastric electricity—galvanism—often without benefit; in fact, there can be no benefit if we have a true atrophy to deal with, but as has been seen in Case 5, which seemed at first to be a true case of atrophy, the secretions were fully restored after a long course of electric treatment, proving the benefit of this agent.

I could go on and cite many more cases equally interesting, but these will suffice to show the importance: 1, of making careful examinations and analyses of all the secretions, including the gastric juice of patients suffering with chronic disturbances of the stomach and bowels; and 2, of careful, persevering and persistent treatment, with the full assurance of success in the long run to the satisfaction of both the patient and the physician. In no other organ of the body is an analysis more important or helpful to an exact diagnosis, and consequently in the successful treatment, than in disturbances of the digestion. I will conclude with a quotation from Prof. C. Gerhardt: "*Die Frucht der Heilung waechst am Baume der Erkenntniss. Ohne Diagnostik, keine vernuenftige Terapie. Erst untersuchen, dann urtheilen, dann helfen.*"

6 East Fifty-eighth Street.

BIBLIOGRAPHY.

1. Fenwick, S.: The Lancet, July, 1877.
2. Ewald: Berliner klin. Woch., 1886, No. 32.
3. Nothnagel: Deutscher Archiv f. Klin. Med., Bd. xxiv.
4. Osler: Am. Jour. of the Med. Sci., vol. 91, 1886.
5. Kinnicutt: Ibid., vol. xciv, 1887.
6. Einhorn: Medical Record, June 11, 1892.
7. Medical Record, Jan. 22, 1898.

SOME NOTES ON TWO CASES OF VOLUNTARY LARYNGEAL WHISTLING.*

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PHILADELPHIA.

The first case that I shall speak of was a student at the Medico-Chirurgical College, and referred to me by Dr. Gleason, of Philadelphia, who also exhibited him before the Section on Laryngology and Otology at the College of Physicians, Philadelphia, where the case aroused considerable interest and discussion. The patient could whistle a tune with his mouth open as in the position for saying "ah." Owing to the absence of good light for laryngoscopic examination, the general opinion of the majority of those present was that the whistle was made in the pharynx, somewhere in the region of the palatal pillars; but that seemed to me impossible, because the pillars were not approximated sufficiently to make an aperture small enough for the production of such a sound.

At Dr. Gleason's suggestion, an appointment was made with the young man at my office, where, with a little careful manipulation, he was trained to so control his laryngeal and pharyngeal muscles as to give me a fairly good view of the larynx during the emission of the sound; and I found that the lips of the superior opening of the larynx were pursed in the same way that the lips of the mouth are pursed in whistling, and the physiology of this interesting phenomenon was made clear to me and I was able afterward to demonstrate it to others. The aryepiglottic folds were used as the lips of the mouth are used in whistling, and, so far as I could determine, no other parts of the larynx were employed.

Since studying this case, my attention has been called to the fact that a somewhat similar one was reported in 1881, by Dr. J. O. Roe, and published in the proceedings of the American Laryngological Association. In this case, however, according to Dr. Roe's description, the whistle was made in an entirely different manner. "The ventricular bands were approximated and puckered up, leaving an elliptical opening in the center through which the vocal cords could be seen, with their thin edges vibrating. . . . . Thus it could be distinctly seen that the fundamental tones of the laryngeal whistle were produced by the vibration of the edges of the vocal cords." In my case there was no reason to suppose that the vocal cords had any more to do with the whistle than they have to do with the ordinary lip whistle, and the fundamental tone was made by the vibration of the "puckered up" aryepiglottic folds.

My other case is a man who imitates birds, and who can produce three, and at times four, distinct notes at one and the same time. He can whistle somewhere down in the region of the larynx, but not with the mouth open, as in the former case, and therefore the musculature can not be studied by laryngoscopy. Although he is an exceedingly clever man, he does not know at all how he makes these curious sounds, and so far as I know, we have no adequate artificial aids to their study. The subject is especially interesting as showing the possibility of the development of voluntary laryngeal muscle action, which formed the topic of my paper read before this Section at Columbus, in 1899.

SOME ANOMALIES OF THE EAR DUE TO ERRORS IN DEVELOPMENT.*

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PHILADELPHIA.

The earliest sign of the ear in the embryo appears about the third week, and is the anlage of the complex labyrinth. It begins as an ectodermic thickening just above the first gill-cleft (hyo-mandibular). Later there is a depression of this thickened area—the auditory pit—which grows deeper and deeper, its edges finally uniting and thus forming the otic vesicle. The otic vesicle being surrounded only by mesodermic tissue is in close proximity to the after-brain and in close relation to the acoustico-facial ganglion. By repeated evaginations, invaginations, unequal growths and foldings, the complex membranous labyrinth is developed, the otic vesicle proper representing the epithelial lining of the entire labyrinth; those of its cells found in the region of the distribution of the nerve of special sense—the maculæ acusticæ and cristæ acusticæ and the organ of Corti—become highly specialized, the rest of the cells remaining as simple columnar epithelium. While these changes in shape and character are taking place in the otic vesicle the surrounding mesoderm is being formed into the cartilaginous ear capsule; and from the embryonic mesoderm between the capsule and the epithelial labyrinth is formed the fibrous portion of the membranous labyrinth closely adhering to the epithelial labyrinth and the internal periosteum of the

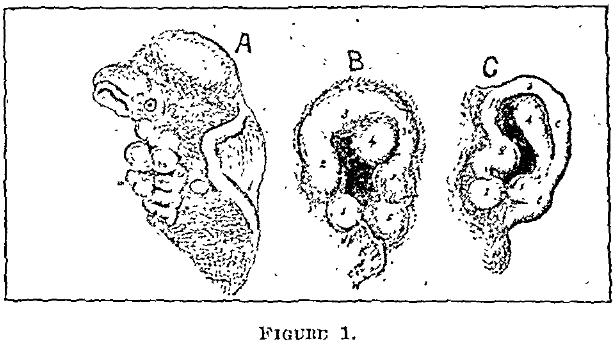

FIGURE 1.

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* Read by Title in the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association held at Atlantic City, N. J., June 5-8, 1900.

* Read by Title in the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association held at Atlantic City, N. J., June 5-8, 1900.

bony canal while the tissue between these two layers liquefies and forms the perilymph. The cartilaginous capsule and surrounding structures are ossified later on and form the petrous portion of the temporal bone.

The middle and external ears are derived from the inner and outer portions of the hyomandibular cleft.

The membrana tympani is the remains of the membrane separating the inner from the outer cleft. The dorsal segment of the inner cleft—evagination of the primitive pharyngeal cavity—is formed into the tube and the tubo-tympanic cavity by the coalescence of its edges. This is the anlage of the Eustachian tube and its dorsal or blind extremity enlarging forms the middle ear, while its inner end opens into the pharynx just behind the soft palate.

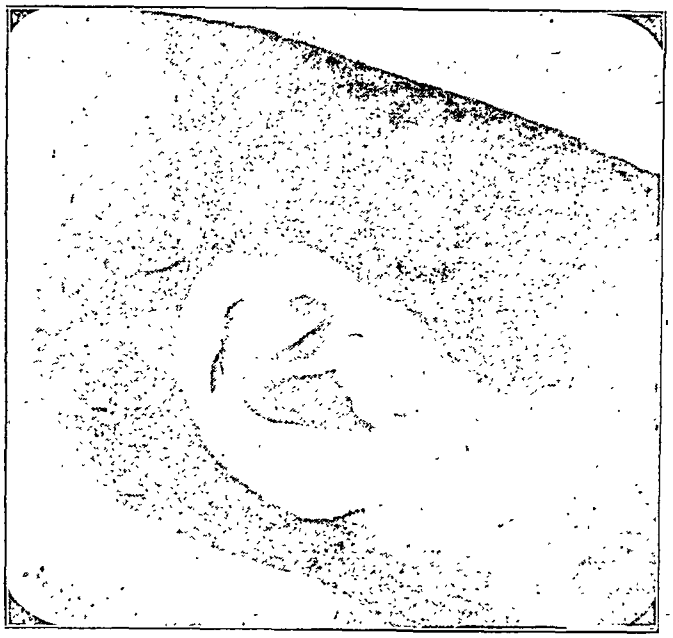

Figure 2.

The external auditory meatus is formed from the posterior part of the first external gill-cleft and is the only part of this cleft which is not obliterated by coalescence.

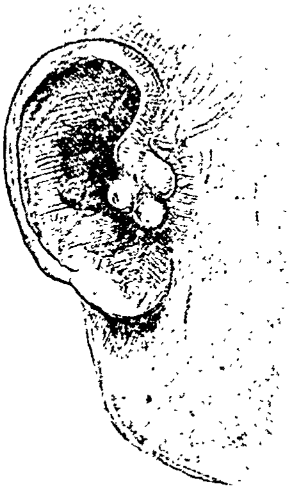

Figure 3.

At three months the meatus is obliterated by a solid block of epithelium, the fundus being separated from the small middle ear by the "closing plate," which becomes the tympanic membrane. In the connective tissue between the vestibule and the fundus of the external canal is the malleus or upper end of Meckel's cartilage. The tissue atrophying brings the membrana tympani around the ossiculæ, but they remain outside of the entodermic epithelium which lines the tympanic cavity. The external meatus is occluded by concresence of its epithelium until after birth. The cerumen glands appear at the age of five months.

The Ossicles.—The malleus and incus are derived from the cartilage of the first visceral arch near its dorsal extremity.

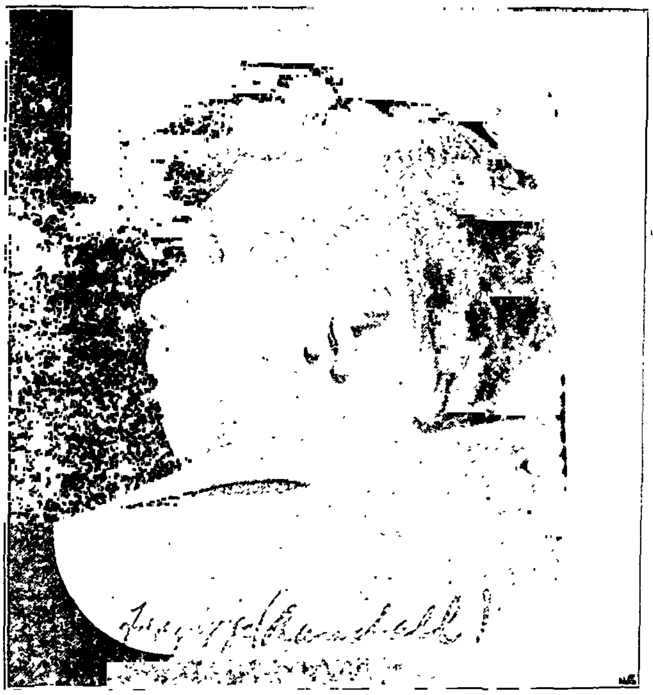

Figure 4.

The stapes is formed from the connective tissue near the foramen ovale and has no relation to the cartilages in the arches.

The Auricle.—The auricle is formed around the posterior free margin of the first cleft and is first evidenced by six mesodermic tubercles covered by ectodermic cells which appear around this region. The cartilage and other connective tissues of the auricle are derived from the mesoderm, while the epithelium is derived from the ectoderm.

Figure 2 is from a lad aged 16, without other defects in his development. The little nodule anterior to the tragus was probably formed by an auxiliary nodule on the mandibular arch. It is apparently composed of cartilage, fibrous tissue, and skin, and could be removed without any unpleasant sequelæ.

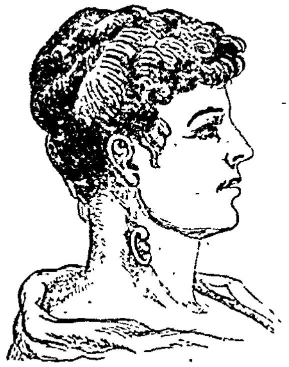

Figure 5.

Figure 3 is taken from a drawing made for me by my friend Dr. J. M. Taylor, from the ear of an Italian woman, aged about 30 years, who was otherwise normal and in whose immediate ancestors there were no defects of development, nor were there any in her four children. In this case there were probably four nodules.

Figure 4 represents a case occurring in the practice of Dr. B. Alex. Randall. There was probably a failure of development of tubercles 2, 3 and 4, with failure of coalescence of 5 and 6.

Figure 5, taken from Gould and Pyle's "Anomalies," and originally from the London *Lancet*, shows what was probably an auxiliary set of tubercles—about second cleft.

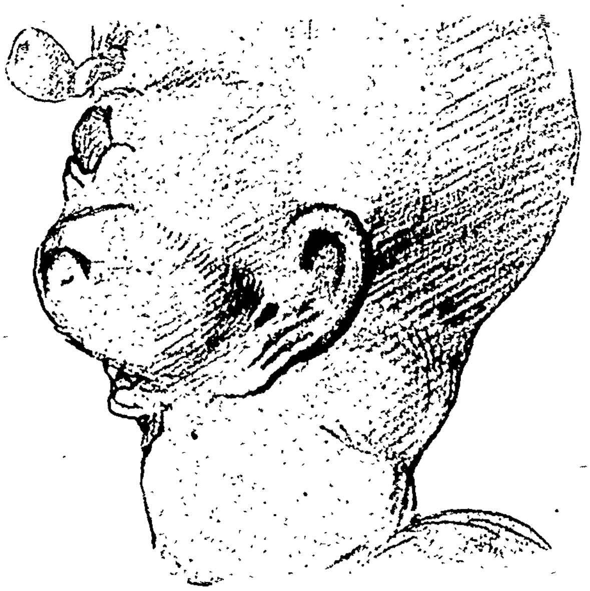

Figure 6.

Figure 6 is taken from a newborn infant which had no external nose; it had no eyes except a rudimentary one in center of forehead from which a horn projected. Other defects were present. In this case tubercles 1, 2, 5 and 6 failed to develop.

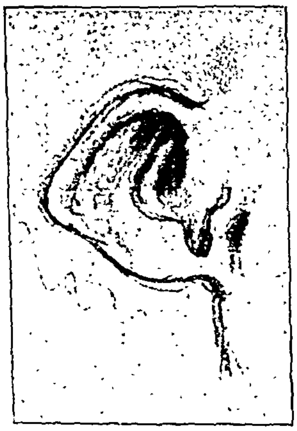

Figure 7.

Figure 7 was taken from an infant that lived ten days, in which there were many other defects. It had hypospadias and a very small, but well-formed scrotum, and there existed a deformity like an auxiliary anus just at point of sacrum. It had cleft palate, embryonic nose, large fontanelles, etc. In this case tubercles 2, 3 and 6 were not developed; there was an auxiliary meatus due to failure of closure of walls of the hyomandibular cleft.

Gould and Pyle in their book of "Anomalies" have collected a number of malformations of the ear, among them being bilateral absence of the external ear, which, though rare in the human species, is constant in a species of sheep found in China. An interesting case collected by them was one of absence of the external meatus and the Eustachian tube in each side in which there was but little loss of hearing. Werner in 50,000 children found 33 with supernumerary auricles in front of the tragus.

In 1000 children in the Home for Feeble-Minded Children, at Elwyn, Pa., I found no abnormalities of the auricles, excepting peculiarities of shape and size; one of these auricles in the case of an adult measured 3½ inches longitudinally and 1¾ inches transversely.

As a rule, supernumerary auricles are pre-auricular, usually unilateral, and can be removed without unpleasant sequelæ.

Another striking case reported by Moxhay,[1] was that in which a mother who was said to have been frightened by a boy with horrible contractions of the neck gave birth to a child which had on the right side two perfect ears and three rudimentary auricles, while on the left side it had two rudimentary auricles.

CARE AND USE OF INSTRUMENTS.*

ALLEN DE VILBISS, M.D.

TOLEDO, OHIO.

It is not my purpose to enter into a discussion of, or repeat what has been said and written on this subject, but to present a few thoughts that will indicate a way to care for and acquire the use of instruments along a line that will give the operator the kind of knowledge that will enable him to cope with exigencies that may arise.

We should remember, after an operation, to put the instruments where they are perfectly dry and will remain so, to prevent rusting, and where the edges will be kept from being dulled by contact.

Before an operation it is essential that the instrument should be sharp and clean. Boiling is unquestionably the best way to put them in this condition. The cutting edges are not spoiled by the heat, as is believed by some, but by a deposit of material upon the edge of the knife, the same as that in a kettle or boiler. This can be demonstrated by trying the edges of knives after boiling in condensed steam and in hydrant water. Where distilled water can not be obtained, when a keen edge is desired, a sterilized Arkansas or India stone should be at hand; the knife passed over it a few times will remove the deposit. "But," says the doctor "I would be as liable to dull the knife as to sharpen it." I presume this is true, through no actual fault of his own, but on account of not having been taught the A, B, C, of actual surgery. Had he been compelled to sharpen his saw, cut his wood and make his fire at home, hone his razor, and shave himself, while getting knowledge he would, at the time, have acquired the skill which is so essential to operative work. No person should be allowed to practice surgery without first having learned a mechanical trade; this would give him the skill as well as developed hands and arms, the very thing so essential in many operative procedures, a necessity so often not found in many classic scholars. A hand that has been allowed to develop to maturity, gloved without use, can never be of material service for actual work. Pancoast and many of our best surgeons workmanlike manner, and not be able to acquire the proper use of his hand, to give the saw-teeth that keen edge so necessary for quick and painless work, by a were good mechanics prior to entering on their surgical work. The handling of tools in one line of work prepares the individual to skilfully handle them in another.

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[1] Brit. Med. Jour., 1870.

* Read by Title in the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association held at Atlantic City, N. J., June 5-8, 1900.

The idea is absurd that a person can possess the skill necessary to remove a spur from a septum nasi, in a stroke or two of a file or stone. Every college should have a teacher qualified to instruct the student who intends to do surgical work, in a course that will develop the fact whether he has inborn mechanical ability; if not, to advise him to have the surgical section cut out of his diploma and be relieved from building monuments for himself, in memory of a deficiency of native ingenuity and acquired skill. If, on the other hand, it is found he has been born right for mechanical work, give him a chance and, with proper starting-points, success will follow and he will be a blessing to humanity.

As we pass along to the practical part of our work, after acquiring the theoretical side, we can then appreciate the necessity of possessing hands that are educated to execute that which we theoretically know, and there is no better plan to educate the hands to follow the directions of the will, than by using them for the purpose of honing a razor, bistoury, drill and the various cutting instruments used for surgical work. The sense of touch is made keen by feeling the edge of the instrument with the palmar surface of the finger, to see if it is sharp, with the end of the nail to see if it is nicked, or carrying it at the proper angle along the upper surface of the thumb nail, to see if it is honed at the same angle on both sides.

By observing the following rules, instruments can always be kept sharp and ready for use, also time and money can be saved; and time should be valuable to all and, in our overcrowded profession, when so many have not enough money to pay their bills and procure the necessities of life, the amount saved will find a place.

When honing a knife it should be pulled from heel to point, the cutting edge leading at an angle of about 45 degrees. The reason for this is, that should there be a particle of hard substance on the stone, it will nick the cutting edge if one carries the blade with pressure along the stone with the back leading, and a knife edge is made up of a series of saw-teeth, as seen by the microscope, and will cut best by having the diamond points inclined toward the heel of the blade; and they will be properly made if honed as above described. To make myself the more clearly understood, remember that when honing a knife it should always be drawn from heel to point toward the cutting edge. When stropping a knife, it should be drawn from heel to point from the cutting edge. The movements of honing and stropping are exactly the reverse of each other. We may know the knife is sharp by the sticky feeling when the finger or thumb is drawn along it. A nick that would not ordinarily be seen can be detected by drawing the edge of the knife along the end of the nail. To remove a nick from the edge of a knife, it may be used on a coarse stone first, until the nick is cut out, and afterward on a fine stone. Steel will accumulate on the stone. To remove it, put oil on and rub clean with a cloth. I like the India oil-stone better than any other, because it cuts keener and is made of different grades, coarse, medium and fine; it can be used with oil or water and may be sterilized by boiling. It is not an expensive stone, as a large one with a coarse and fine side costs only 65 cents; the pencil point, 50 cents, and the triangular, 35 cents. They are sold in hardware stores.

We can care for knives, scissors and saws easier by having them nickel-plated, but they should not be for efficient use. Nickel does not become a part of, but only adheres to, the steel, and when a knife is made sharp or filed after it is plated, there will be a free edge left and it will peel off. It is almost impossible to give a plated saw the clearance it should have and a sharp side edge. A saw to be used on a hard bone, like an eburnated spur of the septum nasi, should have teeth no deeper than a fine one, but should be wider apart to prevent the bone from filling the interspaces of the teeth, thus preventing it from cutting. A fine-tooth saw with a short stroke will easily cut an epiphysis, but will not cut without clogging the dense bone to which it is attached.

Many a good instrument, for want of proper selection, skill to use it, or put it in shape to be used, has been retired in disgrace. There is no excuse for lack of skill in this direction, so long as the number of physicians remain in the same proportion to the work to be done and the plentiful supply of green bones of different shape and density that may be procured from butcher-shops.

Progress is rapid in surgery, especially in our important branch of it. So marked is it that we can no longer walk, but must run in order to keep pace with the advance that is being made. We must be ready to meet any change that presents itself. The instruments to be used to-day may have to be discarded to-morrow for a device to suit a better way. Who would think of heating a laryngeal or rhinoscopic mirror, when white, hard soap rubbed on it and then cleaned off with a dry napkin will leave a film of the soap sufficient to prevent the condensation of moisture from the breath upon it, answering the same purpose as heating it, and will last for several observations while heating will only last for one, and may ruin the mirror. Who would thing of using a Belocq's cannula for plugging in a case of epistaxis when a soft catheter, a kitetail plug or cauterizing the bleeding point would answer the purpose as well and cause less pain to the patient and less trouble to the operator. Simplicity of construction aids in easy use.

I remember removing a sand-burr, several years ago, from a physician's larynx, by means of a skein of silk thread securely fastened to a curved probang and, by the aid of a laryngeal mirror, carried down below the burr, then pressed toward it, when withdrawing, the burr followed. This was done after trying many times to remove it with a forceps, also having the aid of an inventor with his laryngeal forceps, with failure as a result. I received a letter from a physician shortly after his return home, stating that a boy attempted to show how he got the sand-burr in his larynx and was so successful that he put one in his own and that he removed it with a probang and skein of silk thread, at first trial.

Mediastinotomy.—At the Paris Surgical Society, Ricard recently reported an operation through the sternum on a woman on whom tracheotomy had been performed, and the cannula allowed to drop into the trachea. After vain attempts to pass it through the tracheal opening, he made a large opening in the sternum opposite the bifurcation of the trachea, bringing the right bronchus into view, but it was necessary to stop here; the patient died from gangrene of the lung.

SURGICAL DIAGNOSIS OF ABDOMINAL TUMORS.*

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The importance of this subject appeals to all of us and therefore no apology is needed for engrossing your attention. That diagnosis should precede operation is such a rational assumption that it has almost a natural claim upon all operators, and this claim should, whenever possible, be respected. That it does not always receive the attention and consideration it merits, will be generally conceded, and that failure in diagnosis frequently leads to unnecessary operative work and occasionally to unfortunate results, clinical records sufficiently prove. It is not possible within the space allotted to this paper to do anything more than merely sketch the most urgent necessities of this great field of surgical effort, and to invite attention to certain lines of thought which should occupy the mind of every abdominal surgeon. In doing this it will be a privilege to suggest a few new thoughts while reviewing many old ones, in the hope and to the end that they may aid, in however small the degree, in bringing us nearer the time when exploratory incision may be less frequently used than at present seems necessary, and when more confidence may be placed in the diagnostic touch of the operator who would work in the abdominal cavity.

DIAGNOSIS OF ABDOMINAL TUMORS.

In the diagnosis of abdominal tumors several requirements must be fulfilled before the diagnostician can possibly hope for even approximately accurate results, and for the purposes of this paper I have arbitrarily placed these requirements in the following order: 1. A knowledge of the shape and boundary of the cavity itself. 2. A knowledge of the normal location, physical outlines and physiologic functions of the organs of this cavity. 3. A reasonably comprehensive knowledge of those tumors which frequently, as well as those which infrequently, affect these organs. 4. Familiarity with the recognized methods of examination coupled with system and exactness of procedure. 5. A developed faculty capable of exhibiting co-ordinate and harmonious action on the part of the physical and mental being of the examiner.

The first of these conditions I will simply refer to in a general way, by assuming that the word abdominal includes the term pelvic, and that the two cavities are to be regarded as one field, the boundary of which is the peritoneum. Without a very clear conception and bright mental picture of this cavity, no mind is capable of properly dealing with the multiple and complex conditions which may be found within. Before attempting to examine the contents, we must first thoroughly understand the outlines and limits of the cavity itself. In referring to the second requirement, it is perhaps superfluous for me to say that in order for us to be able to make out pathology, it is absolutely necessary that we be familiar with histology; in order that we may be able to define abnormalities, we must be sure of the normal outlines; in order that we may be able to establish disease, we must be conscious of the definition of health. All this implies and includes an anatomical, physiological and topographical knowledge, not alone of the organ suspected of disease, but of all the organs of the abdominal cavity, for the intimate anatomical and physiological relations existing between these organs necessarily imply and predicate the influence of one upon another, both in health and disease. We can readily understand how the normal functions of these organs must of necessity influence not alone their own physical outlines, but the physical outlines of the organs in their immediate vicinity. A distended stomach, bladder or bowel surely affects the anatomical relation of its neighboring organs, and not infrequently disturbs their physiological functions. A greatly enlarged organ disarranges the entire anatomical plan of the abdominal cavity. Therefore, before searching for tumors, let us satisfy ourselves as to the existing conditions of the normal contents of the cavity.

KNOWLEDGE OF GROWTHS WHICH ARE DISPOSED TO AFFECT DIFFERENT ORGANS.

With a comprehensive knowledge of the cavity, its normal and natural contents, we are in a position and prepared to recognize the evidences of abnormal growths which may present themselves. This knowledge, attained through a physical examination of the subject, is largely limited to a determination of the shape, size, location and probable consistency of the tumor, leaving us still very far from the ultimate and desired information. If, however, we now add to this information a knowledge of the growths likely to be met with in connection with any organ, coupled with the ability to eliminate growths not likely to be met with, we have done very much toward bridging the space between the known and the unknown. Thus, if the tumor be connected with the stomach, especially with the pyloric end, we are warranted in suspecting carcinoma and in eliminating all benign growths.

If the tumor be connected with the liver, our thoughts naturally go to the possibility of an enlarged gallbladder. If the liver itself be enlarged, we naturally think of cirrhosis, or primary carcinoma, abscess, etc., but we would not think of associating fibroma or myoma with the condition under examination. If the growth be found associated with the ovaries, tubes or uterus, almost instinctively we are forced toward the idea of cysts, infected tubes or fibroids, seldom giving the possibility of malignancy more than a passing thought. We must now carefully weigh the evidence obtained through the physical examination, modify it by our own knowledge of the probabilities in each case, and draw conclusions in accordance with sound reasoning, based on reasonably certain premises. Very frequently the surgeon will be greatly mystified by the apparently contradictory evidence obtained, and he will be at a loss for conclusions. This is unavoidable as, for illustration, an enlarged spleen may be due to simple hypertrophy, cysts, malignant disease, leucocythemia or ague cake, any one of which may be responsible for the physical signs present, but usually there will be found in connection with each case, something either in its general or special history or in the shape or consistency of the tumor which will guide the diagnostician aright if he but possesses the necessary patience and perseverance. True, many cases will defy diagnosis even when handled by the expert, but this is to be expected, and when such cases are seen, the surgeon must do the best he can. As an instance of this sort, I would cite a case which fell into my hands some three years ago.

A young man complained that for a number of years he had been troubled by the occasional presence of a tumor in the right hypochondriac region. The tumor varied in size, being much larger at times than at others, caused considerable uneasiness when present and usually disappeared in from two to three days after its appearance. The young man's physician had observed the tumor, made a careful examination and, in the absence of any other probable theory, made the diagnosis of enlargement of the gall-bladder, due to some obstruction in the cystic duct, interfering with the free escape of the normal secretions of the sac. Upon my first examination no evidence of tumor could be found. The patient was advised to remain in the hospital until the recurrence of the enlargement, which came on the sixth day after he had presented himself for examination. Immediately beneath the liver, and apparently growing from it, an oblong tumor was easily outlined, seemingly about 6 inches in length and 2 in diameter. It was uniformly smooth on the surface and gave to the touch, on pressure, a sense of bogginess. It remained for three days and then, as usual, disappeared. During its stay several attempts were made to isolate this apparent growth from the liver, without success. After its disappearance an incision was made directly down upon the region where the tumor had been, when the unusual condition of the bowel to the length of about 2 inches was found adherent to the under surface of the liver, probably congenital in history. This looping up of the bowel at times acted as an obstruction to the free passage of the bowel contents, thus creating a tumor which disappeared as soon as the contents finally succeeded in passing. This is but one of the many unlooked for conditions we are called upon to deal with, and we know of no rule or advice that is likely to help us, except perhaps common sense.

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* Read before the Section on Abdominal Surgery, at the Third Pan-American Medical Congress, held in Havana, Cuba, Feb. 4-7, 1901.

METHODS OF EXAMINATION COMBINED WITH SYSTEM AND ACCURACY OF OBSERVATION.

With the foregoing conditions satisfied, the surgeon is in a position to proceed with his examination and, to the end that his conclusions may be reliable and correct, he must follow some systematized method and be reasonably accurate in his observations. Surgeons too often take things for granted and develop conclusions without first having established the proper premises. Such conclusions must necessarily often be faulty, and *any* practice based on them must be unsatisfactory.

We have found that attention paid to the following subdivisions will lead the surgeon to satisfactory conclusions and reasonably accurate diagnosis: 1. History of case. 2. General appearances of the patient. 3. Special appearances of the abdomen.

The history of the case very frequently suggests the character of the growth, but this suggestion must not be relied on as a sufficient basis for diagnosis, but rather may be utilized as a guide in leading us to the nature of the disease. The patient's description of his first consciousness of the disease, the time of development, the character of the pain, if any, the organ most particularly affected, the general effect on the system, etc., are all pregnant with suggestions as to the nature of the tumor, but we must never forget that they are but suggestions. The general appearances of the patient must not be overlooked or omitted. It is a fact well established and recognized that certain abdominal growths produce well-defined facial expressions as well as characteristic hues of the skin—the facial puffiness of enlarged liver, the facial bogginess of ascites produced by the influence of any general encroachment on the heart, the cyanotic countenance, the cachexia of carcinoma and the jaundiced condition produced by interference with the biliary circulation are among the many of which we must take cognizance.

SPECIAL APPEARANCES OF THE ABDOMEN.

In the diagnosis of abdominal tumor, the diagnostician must not content himself with the outline and size of the growth, but should earnestly endeavor to determine and satisfy himself from what part of the body it has sprung, and its possible or probable influence on neighboring or adjacent organs. He will thus be enabled to clear up and account for all the symptoms exhibited in the case, and consequently will have removed all doubt as to the diagnosis. To do this, patience, perseverance and gentleness are necessary. With the patient before us in the proper position, our first inquiry should be directed to the general outline of the abdomen. In this inquiry must be included the condition of the abdominal wall—the absence or presence of any special thickening—and, when such thickening is found, its probable cause must be considered; the presence or absence of any special indication of tumors lying beneath the wall. In this connection it must not be forgotten that the absence of external indications of abdominal tumor is no evidence that such a tumor does not exist, and on the other hand we are often deceived by appearances which seem to point conclusively to abdominal tumor, but which, on later being traced to their real sources, are easily accounted for.

Our next information must come through the sense of touch, and in this we should encourage and practice the greatest gentleness; even were it not true that serious consequences occasionally follow undue and unnecessary pressure in examination, there could still be found no excuse for avoidable clumsiness and unwarranted roughness, especially when we can secure better results by gentler means.

By careful, gentle and uniform pressure over the abdominal wall, the tumor, if present, will soon be located; if large, its nature will with little difficulty soon be found out—in short, it is that developed power which enables one to remain unconscious of the intervening wall between the hand and the part being examined, thereby permitting a more careful and reliable conclusion as to the existing conditions. It is the faculty which enables the gynecologist to use the uterus as a connecting medium between his hand and some growth in the abdomen, to determine the nature, size and consistency of this growth. It is the faculty which aids us in approximating the size, shape and, oftentimes, the consistency of any growth with which we are dealing. Words can not describe it; reading can not develop it; thought will not acquire it. It is the one faculty which must of necessity come to us through patient and persistent effort, and the close study of those niceties which go to make up the good diagnostician.

ANESTHETICS IN EXAMINATION.

The value of anesthetics in the examination of the abdomen, except in rare cases, is not well established. We easily recognize the advantages they afford, but we also recognize the disadvantages and dangers attending their use. They remove, it is true, the muscular resistance of the patient, but in doing so they have also removed the evidences of sensitiveness and the pain of diseased organs, which are often the surgeons' only guide to conclusions. To this we must add the usual dangers, however small, connected with the use of anesthetics, and the special possibility of doing harm, through our manipulations to unconscious patients, which might be avoided or prevented were we dealing with the conscious, sensitive and resisting subject. Failing in our first effort to complete the diagnosis, or to satisfy ourselves as to the true nature of the case, we must repeat the examination and exhaust every means before we admit failure.

When all efforts along these lines have proved unavailing, we are then—but not till then—warranted in subjecting the patient to the very useful, though oftentimes unnecessary, exploratory incision.

In conclusion, I desire to say that this paper has not been written upon the presumption that it would instruct, but rather on the assumption that as "constant dropping wears the stone," it may be regarded as at least a drop in the removal of those obstacles which lie between us and correct abdominal diagnosis, and which have exposed us to the doubtful compliment paid us by European surgeons, of being good operators but poor diagnosticians.

A CONTRIBUTION TO THE STUDY OF MOUNTAIN FEVER.*

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I find in the arid plateaus of the Rocky Mountains three types of fever that predominate during the summer and fall. These more prevalent forms of febrile disturbances are familiarly known as malaria, typhoid and mountain fever. It is true that malarial fever is found to exist throughout the entire year, but it is more prevalent during spring, summer and autumn. We are not yet prepared to say that mountain fever is or is not a modified type of typhoid or malarial fever. Whether or not it is a relative to these diseases, the writer is satisfied that it has enough distinctive features, peculiar to itself, to warrant it in being worthy of separate consideration.

It is not the purpose of the writer in this contribution to attempt to defend the so-called "mountain fever" against those who may disclaim its existence. As a member of the medical profession, I feel it is my duty to record the clinical facts as they present themselves, regardless of my own or any one else's personal prejudice for or against it, with a view of determining, as far as possible, its symptomatology, etiology and pathology.

"Mountain fever" is characterized chiefly by a sudden attack of malaise, followed by a chill, a sharp rise and fall of temperature, often to unusual extremes; occipital headache with pain shooting down the back, but seldom accompanied with loss of consciousness or associated with epistaxis. There is some gastro-intestinal irritation which seems to be confined more particularly to the stomach and transverse colon. There is rarely enteric hemorrhage or vomiting, and it is only occasionally associated with tympanites.

Usually between the tenth and fifteenth day a peculiar eruption appears which extends over the upper extremities, the anterior and posterior portion of the chest, the abdomen, the back, the hips, the thighs and, not infrequently, the legs. The eruption first consists in a small bright red spot between the size of a pin-head and a split pea, and under the finger feels like a small grain of shot in the skin, which is slightly raised at the point of discoloration and is neither vesicular nor pustular. In from three to five days it begins to fade and turn from a red to a dirty brown color. The shotty feeling gradually disappears, the discoloration slowly subsides, and in from seven to ten days more it disappears entirely, this generally marking the initiation of the convalescence, which requires from ten to twenty days longer, making the usual course of the disease range from thirty to fifty days.

I have met cases which to all intents and purposes appeared to be "mountain fever" in which this eruption did not appear, but where the prevailing symptoms indicated this form of fever. Likewise, there is an occasional case where we have epistaxis, but in the majority it does not appear, while hemorrhage from the bowels is practically unknown in this form of continued fever.

Nervousness resembling paralysis agitans is more or less marked according to the severity of the case, and usually lingers well into convalescence. The tongue is coated with a grayish, yellowish fur, but rarely becomes dry and brown, and sordes is seldom present.

Etiology.—The cause of mountain fever is not at all well understood, and it is to be hoped that in the near future continued and impartial investigations will lead to a definite conclusion as to its true cause and real place in the rôle of diseases.

In this connection, through the courtesy of Dr. Geo. M. Sternberg, Surgeon-General of the United States Army, there were twenty examinations made of the blood of patients being treated in the Wyoming General Hospital in which the diagnosis was that of "mountain fever." Of these cases, which ranged over a period of two years, 12 gave negative reactions with Widal's test and 7 positive. During the same period there were 13 examinations made of cases being treated in the same hospital, diagnosed as typhoid fever, in which there were 2 negative and 11 positive reactions. While these examinations are not yet conclusive, they are sufficiently so to show that there is certainly a difference as to the causes producing typhoid and "mountain fever," and while it is possible to mistake the one for the other, at the same time the distinction between the two is sufficient to make them, as a rule, easily differentiated the one from the other.

Knowing, therefore, that typhoid fever is the result of infection with Eberth's and Gaffky's bacillus, and the fact that out of 13 cases examined during a period of nearly two years, all but 2 gave a positive reaction, while of 20 cases of "mountain fever" treated during the same period, all but 7 gave negative reactions, would lead us to believe at least that mountain fever was not produced by the same cause as typhoid. Fortunately for the patients, but unfortunately for the sudy of the disease, "mountain fever" has not been found to be a fatal disease, the writer never having seen a fatal result in over one hundred cases which have come under his observation during the past three years.

Pathology.—For reasons already mentioned, in speaking of the etiology, the pathology is not at all well understood. It seems to be a disease which effects the stomach and transverse colon, and is particularly marked in the nervous system, producing a condition that simulates paralysis agitans as compared with subsultus tendinis of typhoid. To further aid in the study of this disease I beg leave to submit for inspection the following clinical charts, showing the range in tem-

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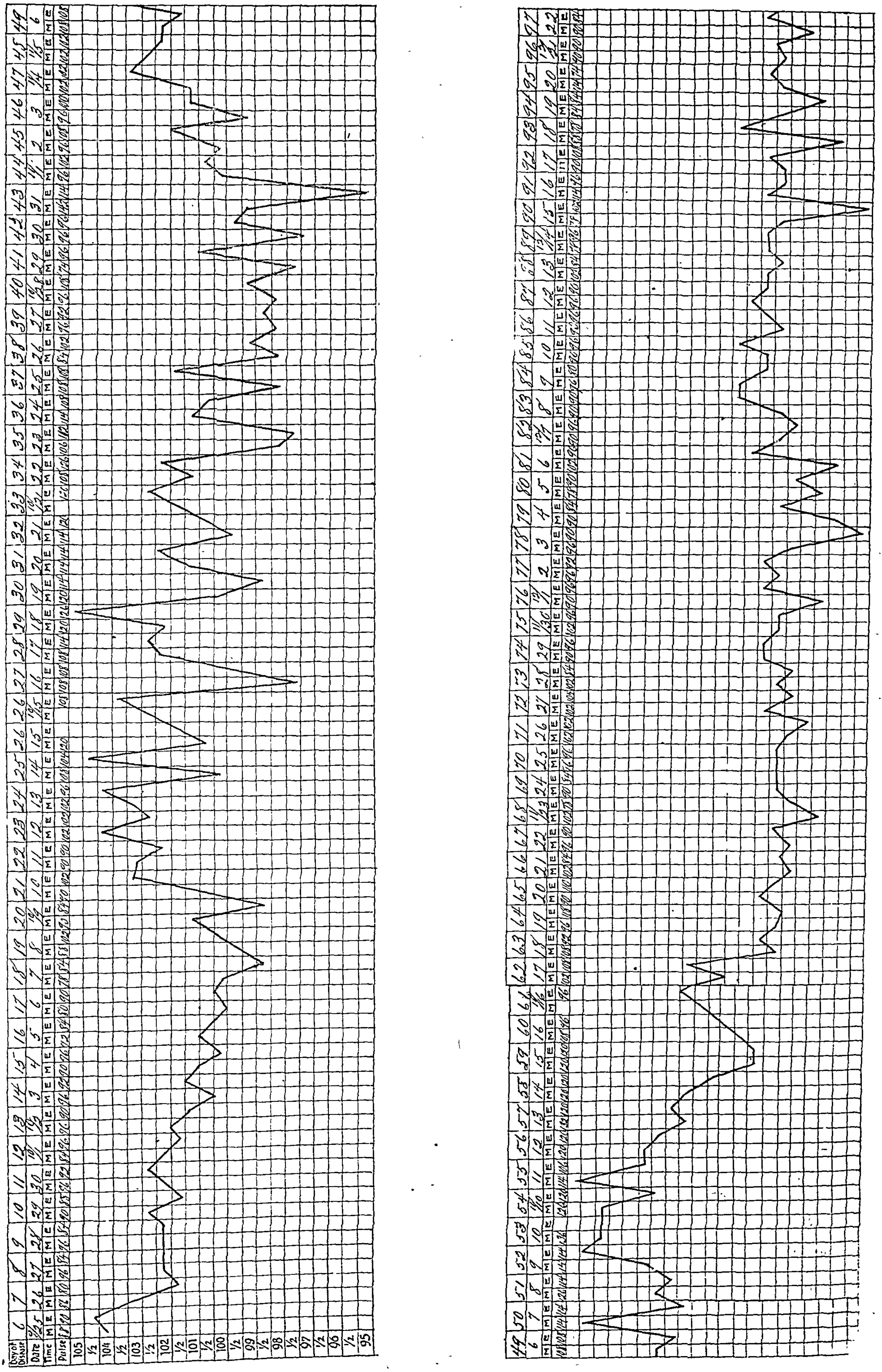
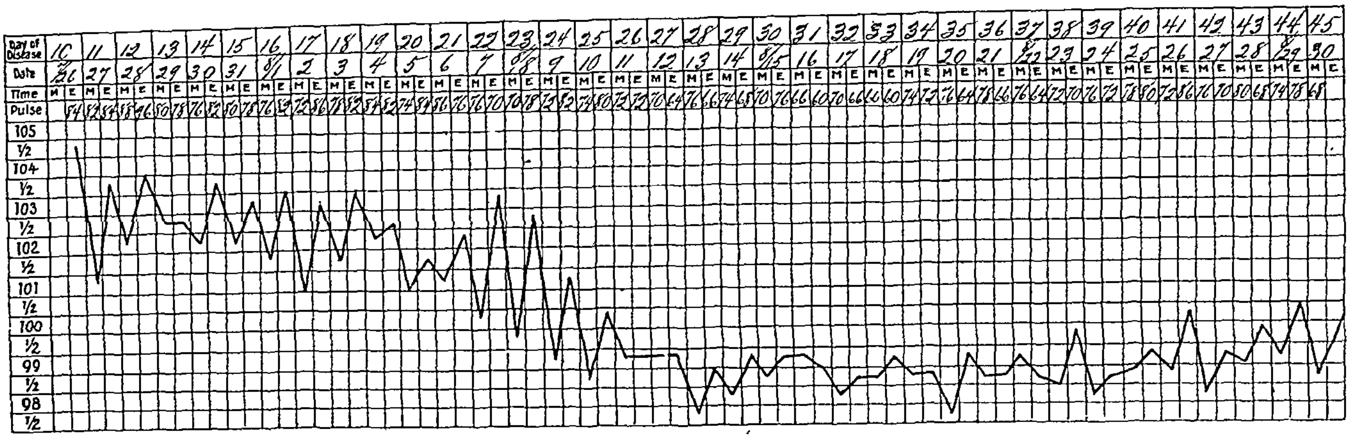
* Read before the Fourth Annual Meeting of the Wyoming State Medical Society, held at Cheyenne, Wyo., Oct. 9 and 10, 1900.



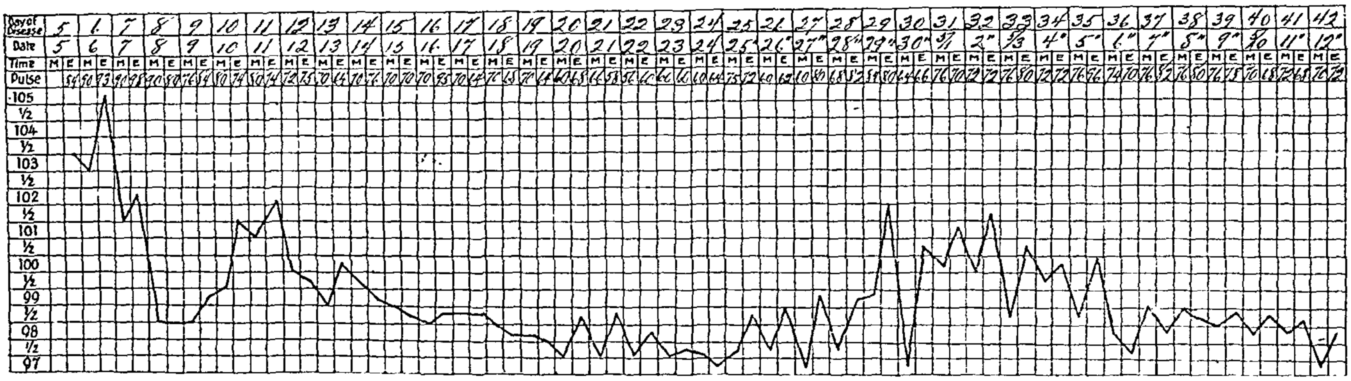
Case 572.—Typhoid fever. Positive reaction.

perature in mountain fever as compared with typhoid. These charts have not been made from selected cases, but are simply what might be considered fairly representative cases of each of the two diseases, in which have been included the more difficult as well as some of the milder forms of each.

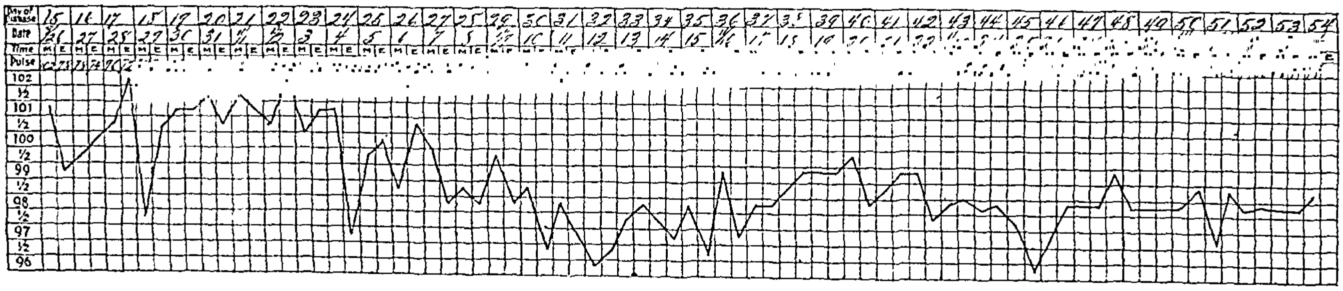
Case 572 shows a positive reaction with Widal's test. This was an unusually malignant case of typhoid fever, covering a period of 102 days, with a range of temperature varying from 105 to 95 F., a difference of 10 degrees in the extremes, with numerous severe hemorrhages, finally followed by recovery.



Case 874.—Typhoid fever.



Case 413.—Typhoid fever.



Case 608.—Typhoid fever.

Case 874 shows a positive reaction with Widal's test, ran a course of forty-five days with a range of temperature varying from 104.5 to 98 F., a difference of 6.5 degrees between the extremes, terminating with recovery.

Case 413 gave a positive reaction and only ran a course of forty-five days, showing a range of temperature varying from 104.5 to 97 F., a difference of 7.5 degrees between the extremes, terminating with recovery.

In case 608 no test was made. This case, however, ran a course of fifty-four days with a variation of temperature ranging from 102 to 96 F., a difference of 6 degrees in the extremes, and was followed by recovery.

In these four cases of typhoid fever we have the following extremes of temperature: Case 572, 10 degrees; case 413, 7.5 degrees; case 874, 6.5 degrees; case 608, 6 degrees, or an average of 7.25 degrees F.

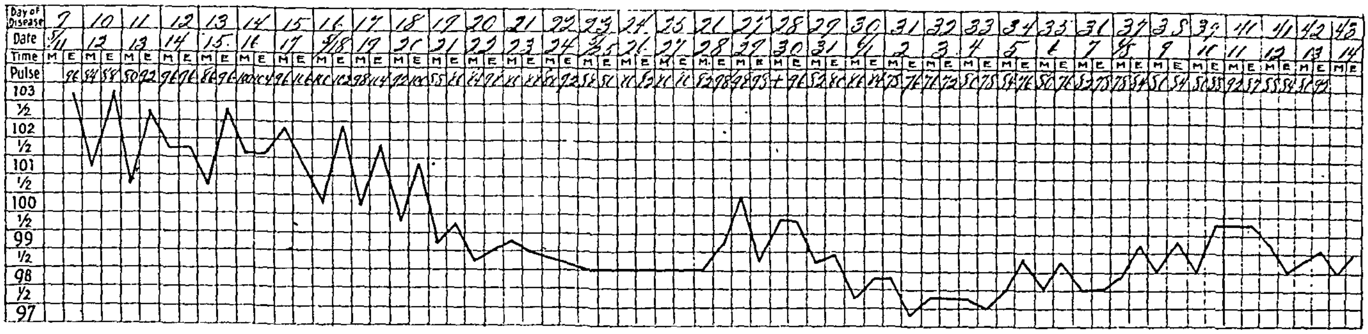
In reviewing the cases of "mountain fever" we find that:

Case 902 gave a negative reaction with Widal's test, and ran a course of only eighteen days, but had a variation of temperature ranging from 103 to 97 F., being an extreme of 6 degrees followed with recovery.

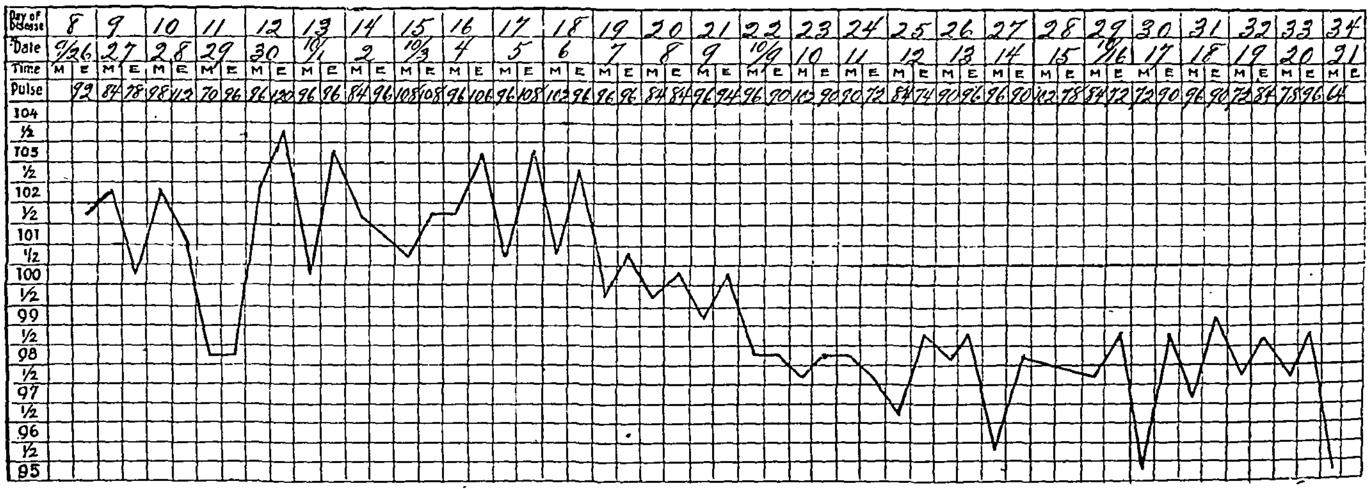
Case 441 gave a negative reaction, ran a course of forty-three days, and had a range of temperature varying from 103 to 97 F., a difference in extremes of 6 degrees and was followed with recovery.

Case 573 gave a positive reaction, ran a course or thirty-four days and showed a variation of temperature ranging from 103.5 to 95 F., a difference in the extremes of 8.5 degrees making a good recovery. This case, according to Widal's test, should have been diagnosed typhoid fever, but owing to the sharp, and decisive range of temperature was considered "mountain fever" by the writer, as it lacked the roof-cone ascending and descending temperature.

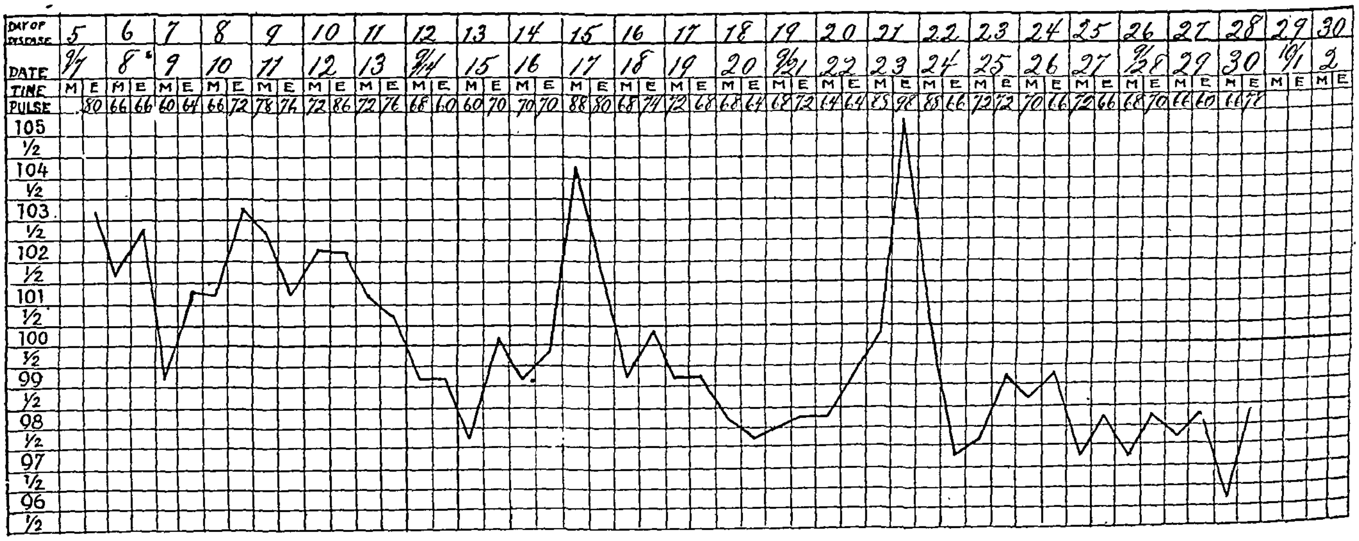
In case 556 no test was made. This case ranged over a period of twenty-eight days and showed an extreme of temperature ranging from 106 to 96, a difference in the extremes of 9 degrees, and was followed with recovery.



Case 441.—Mountain fever.



Case 573.—Mountain fever.



Case 556.—Mountain fever.

In observing these temperatures it will be clearly evident that there is a sharper and more irregular rise and fall of temperature in the so-called "mountain fever" than in typhoid, the latter having a more gradual ascent in the majority of cases until it reaches the climax, when it takes a more gradual descent until resolution is established.

In these four cases of "mountain fever" we have the following extremes of temperature: Case 902, 6 degrees; case 441, 6 degrees; case 573, 7.5 degrees; case 556, 9 degrees, or an average of 7.3 degrees F.

While the average variation of temperature in these cases is practically the same, it extends over an average of sixty days in four cases of typhoid fever and only over an average of thirty days in the same number of cases of "mountain fever," thus making the variation more abrupt when we consider the number of days the patient was sick with "mountain fever" compared with those of typhoid.

I herewith submit a tabulated report of forty examinations of the blood of thirty-two patients, made under the direction of Surgeon-General George M. Sternberg, and extending over a period of nearly two years. It is as follows:

REPORT OF WIDAL'S TEST IN ORDER OF DATE, MADE AT THE SURGEON-GENERAL'S OFFICE, WASHINGTON, D. C., OF SAMPLES OF BLOOD SUBMITTED BY R. HARVEY REED, M.D., OF PATIENTS UNDER HIS CARE AT THE WYOMING GENERAL HOSPITAL, ROCK SPRINGS, WYOMING.

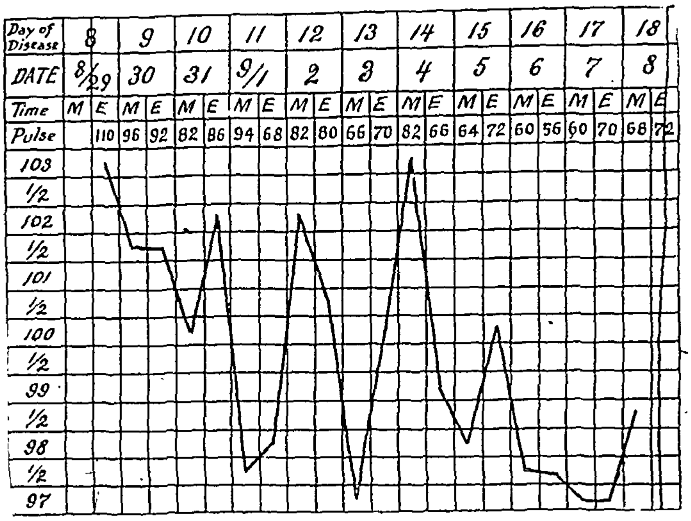
Case Number.	Date Blood Was Drawn.	Diagnosis Made Prior to Widal's Test.	Reaction.
379	3-5-99	Mountain fever	Negative
413	4-6-98	Typhoid fever	Positive
427-a	4-27-98	Mountain fever	Negative
427-b	5-17-98	Mountain fever	Negative
441	5-17-98	Mountain fever	Negative
472	6-21-98	*Malarial fever	Negative
520	8-15-98	*Varicocele	Slight Agglutination
526	8-17-98	Mountain fever	Negative
500-a	8-26-98	*Malarial fever	Negative
500-b	8-26-98	*Malarial fever	Negative
572	9-30-98	Typhoid fever	Positive
573	9-30-98	Mountain fever	Positive
576-a	9-30-98	Mountain fever	Incomplete
577	9-30-98	Mountain fever	Negative
580	9-30-98	*Gastralgia	Positive
576-b	10-17-98	Mountain fever	Positive
583	10-17-98	Mountain fever	Positive
596	10-17-98	Typhoid fever	Positive
597	10-17-98	Typhoid fever	Positive
661	12-13-98	Mountain fever	Negative
783-a	5-16-99	Mountain fever	Negative
783-b	5-16-99	Mountain fever	Negative
823	6-1-99	*Acute bronchitis	Negative
845	6-30-99	Mountain fever	Negative
851-a	6-30-99	Mountain fever	Positive
851-b	6-30-99	Mountain fever	Positive
853	6-30-99	Typhoid fever	Negative
874	7-29-99	Typhoid fever	Positive
887	8-18-99	*Remittent fever	Positive
899	8-29-99	Mountain fever	Positive
902	9-2-99	Mountain fever	Negative
905	9-2-99	Mountain fever	Negative
930-a	9-29-99	Typhoid fever	Positive
931-a	9-29-99	Typhoid fever	Positive
930-b	10-7-99	Typhoid fever	Negative
931-b	10-7-99	Typhoid fever	Positive
930-c	10-16-99	Typhoid fever	Positive
948	10-16-99	Typhoid fever	Positive
964	10-29-99	Mountain fever	Positive
967	10-29-99	Typhoid fever	Positive

Of these forty examinations in thirty-two cases I submit the following table of comparisons:

Name of Disease.	Negative.	Positive.	Incomplete.	Total.
Mountain fever	12	7	1	20
Typhoid fever	2	11	0	13
Malarial fever	3	0	0	3
Varicocele	0	0	Slight agglutination	1
Gastralgia	0	1	0	1
Acute bronchitis	1	0	0	1
Remittent fever	0	1	0	1
				40

By this table it will be seen that 84.6 per cent. of the cases of typhoid fever when tested showed a positive reaction, while only 15.3 per cent. showed a negative reaction. On the contrary, of the so-called "mountain fever," 60 per cent. gave a negative reaction and 35 per cent. a positive, and 5 per cent. an incomplete reaction. It is also interesting to note that the case of gastralgia gave a positive reaction as well as the one of remittent fever, while the case of varicocele showed a slight agglutination.

In concluding this contribution to the study of "mountain fever" there is apparently a marked difference between typhoid and "mountain fever" in a few particulars, of which the following is probably the most marked: 1. In the reaction with Widal's test a large majority of cases show a positive reaction in typhoid fever, while in mountain fever the majority of tests show a negative reaction. 2. The mortality is much greater in typhoid than in "mountain fever." 3. The average duration of the disease is greater in typhoid than in "mountain fever." 4. The cause of "mountain fever" does not seem to be due to the presence of the Eberth and Gaffky bacillus. 5. The rise and fall of temperature in "mountain fever" is more abrupt than that of typhoid. 6. Tympanites is nearly always present in typhoid and seldom present in "mountain fever." 7. Epistaxis is common in typhoid, but rare in "mountain fever." 8. Enteric hemorrhage is seldom met with in "mountain fever," but common in typhoid. 9. The eruption in typhoid fever is usually confined to the abdomen, is not raised and disappears readily on pressure, returning promptly when the pressure is relieved, while the eruption in "mountain fever" covers almost the entire body, is raised and has a shotty feeling under the finger, and does not disappear on pressure.



Case 902.—Mountain fever.

From these few differential points which the writer has observed in the study of these diseases, which have occurred in the same community, which have been treated side by side in the same hospital or cared for at their homes, while they belong to the same type of disease, both being continued fevers, both usually occurring in the summer and autumn, yet, he is compelled to look on them as being at least different conditions of the same, if not entirely distinct, maladies produced by separate and distinct causes.

A STUDY IN THE HEMATOLOGY OF NEURASTHENIA.*

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CHICAGO.

The title neurasthenia would seem to cover a pathologic condition far more widespread than the term itself might indicate. There is scarcely an organ or tissue in the body which does not show more or less deviation from the normal.

In taking up its hematology, facts appear which of themselves are confusing and contradictory. One of the first symptoms noticeable in neurasthenia is the evident anemia or, if not anemia, hemic change. In an able and suggestive article published in the *Medical Record,*

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*Note—The blood from the three cases of malarial fever, one each of varicocele, gastralgia, acute bronchitis and remittent fever were purposely sent to ascertain the result of Widal's test in diseases other than typhoid fever.

* Read before the Chicago Neurological Society, Dec. 20, 1900.

June 25, 1898, Mary Putnam Jacobi points out that many neurasthenics, and also patients evidently anemic, have a very high blood count, and gives the history and count of several patients where the reds were over 5,500,000. One patient, a palid neurasthenic, had a red count of 6,660,000; whites, 37,777. Following suggestions of Dr. S. Weir Mitchell, Dr. J. K. Mitchell has made a very careful and exhaustive study of many neurasthenics, finding a large per cent. of them evidently anemic, and yet with a blood count either normal or supranormal. Such observers as Mitchell, Oliver, Cabot and Cheron Vigoroux have noticed and noted the changeableness of the red count owing to variation in the condition of the blood drop after massage, static electricity, etc.

It is curious that it never occurred to these careful observers to put together the results obtained by the various means of blood examination. No tissue of the body is so changeable or so changing as the blood, and before any fair conclusions can be drawn certain facts of its condition must be obtained, as: 1, its specific gravity; 2, its chemical composition; 3, rate of flow and caliber of vessels, including vasomotor control, as the red and white corpuscles do not move with the same velocity, the white tending to lag and stick against the blood-vessel wall; 4, temperature of the part furnishing blood for examination; 5, number of reds and number of whites; 6, hemoglobin value in color; 7, bulk value of corpuscular elements as determined by the hematokrit; 8, biochemic activity of the cell as manifested by its ability to take up acid or alkaline staining reagents; 9, the age of the corpuscular elements, a point not practically discoverable clinically, but bearing largely on the condition of the patient and possibly discoverable by *a priori* reasoning, as I purpose showing subsequently; 10, its bacteriology.

In experimental work done by Drs. John Holdam and J. Lorrain Smith[1] to determine the different oxygen capacities of red blood corpuscles, several data were obtained which aid in discovering the age of corpuscles. When blood is centrifugated, the heaviest corpuscles naturally are thrown to the periphery. These observers took specimens from this heavy outer layer of corpuscles and found that they had an increase of 20 per cent. of oxygen-carrying capacity over the layer near the center of centrifugation. The size of corpuscles, according to their statements, in no way influenced oxygen-carrying capacity. A still more interesting point was the fact that blood drawn from animals previously bled had a higher oxygen capacity than that obtained before such bleeding. While such facts were noted, the evident conclusion was not drawn, namely, that the heavy corpuscles were the new ones and the light corpuscles with enfeebled oxygen-carrying capacity were old.

Premising so much, I turn to observations made first in the examination of choreics and afterward carried on in neurasthenics. Patients coming into the examining-room from an outside temperature below freezing showed for some time a marked decrease in the solid constituents of the blood, amounting not infrequently to 10 per cent. by bulk, as shown by the hematokrit over readings obtained in former examination; not only this, but apparently an increase in the proportion of reds over whites. When the patient was thoroughly warmed this discrepancy disappeared. Patients examined after Franklinization showed a decided increase in the bulk of solids and number of reds over readings obtained before the electricity was used. Immersing the hand of a well-warmed patient into cold water rapidly lowered the bulk of reds in circulation. From many examinations made, both in health and disease, it was found that cold uniformly lowered the bulk of solids in peripheral blood and increased the apparent quantity of reds over whites. On the other hand, warmth restored the balance, and massage and electricity uniformly raised the bulk of solids above normal for the individual, thus giving a sway from the abscissa line 0 normal, to from 2 to 10 per cent. below to 2 to 10 per cent. above. A natural deduction would be that some attention should be given and allowance made in the blood count in patients with cold, clammy hands and extremities. The small size of blood-vessels and the vasomotor constriction seen in some neurasthenics may account for part of the apparent hemic disturbance. Furthermore, change of atmospheric pressure materially changes the number of reds, as might be expected. A marked increase in the quantity of solids in the blood from a finger was always obtained by rotating the arm rapidly. Removal of a patient to an altitude causes reds to appear in greater number in peripheral vessels, so that the remarkable gain noted at times in the hemic condition of patients taken to altitudes may be and probably is factitious, due to the altitude and not to an actual increase in the number of reds in the general circuit.

Going back to the study of the red blood column, as shown in the hematokrit, and studying it more in detail, there seem to be three areas in it in normal blood: a heavy one found at the periphery, a middle-weight area in the center, and a lighter-weight area at the proximal end of the clot.

I find that blood taken from these three areas varies much in its capacity to take up acid stains. The heavy blood from the periphery stains deeply and quickly and evenly with the acid stains. The middle area stains fairly well with acid stains and blood from the proximal end of the tube but slightly. There are certain other features of the blood from this last area which attract attention. The corpuscle itself is exceedingly lean, oftentimes almost dumbbell-shaped when on edge, and does not stain evenly. The cytoplasm is apparently pushed to an outside rim with the cell wall collapsed and touching in the center, the cell contents having lost almost all biochemic activity.

Putting the findings together, namely, that in normal blood we have circulating red cells of very uneven value and that some of them are heavy and stain well, that in an animal bled and allowed to recuperate we have a great preponderance of heavy red cells staining deeply, and that in both instances the heavy cells have a greater oxygen-carrying capacity, the conclusion would seem inevitable that these heavy cells are new or recently formed.

Applying these facts, and conclusions legitimately drawn from these facts, to findings in the examination of the blood of neurasthenics, it would appear possible to reconcile many statements apparently diametrically opposed. In all cases coming under my observation there seems to be some hemic disturbance, no matter whether the case has as a basis an autotoxemia, a toxemia as a sequel of preceding disease, or is apparently purely acquired or is of distinctly hereditary type. Each type may have some particular prominent symptom, a sexual one or gastric one, but be the type or special symptom what it may, if the disease persists any length of time there presently appears a condition of blood fairly constant and typical of the disease. The reds may or may not be reduced in count, at times may be even above count, but the individual erythrocyte has undergone a change so that it resembles the cells in normal blood, which I have called, for want of a better name, old cells. In many cells the cytoplasm in stained specimens seems pushed out to the periphery to such an extent that the cell becomes dumbbell-shaped instead of the normal lenticular or biscuit shape. As a result the cells pack together closely and show a marked diminution in volume by the hematokrit. The oxygen-carrying capacity is lowered, and in consequence the hemoglobin is deficient in color test. The blood in neurasthenia then would seem to be poor in oxygen-carrying capacity and not only this, but, owing to the poor vasomotor control, the peripheral blood at least varies much in its character. Time and again I have noticed the blood issuing from a puncture, not well mixed so that serum came first and then, apparently, a mass of corpuscles. Such findings lead at once to speculation. Certainly, many cases of neurasthenia have some form of toxemia as an underlying cause. The value of all means of hemogenesis is at once apparent and, if it were necessary, further proof is furnished for the value of massage, electricity and overfeeding.

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[1] Jour. of Phys., 1894, p. 465, etc.

INTUBATION OF THE LARYNX, WITH PERSONAL REMINISCENCES.[*]

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March 20, 1885, it was my privilege to present a paper on the intubation of the larynx to the Chicago Medical Society, and to illustrate the operation on the cadaver. Through the courtesy of Dr. Joseph O'Dwyer, of New York, now deceased, who was experimenting with this operation in the hospitals of that city, I was provided with the crude and primitive instruments then in use.

My first operation was performed April 19, 1885, on a child 2 years old, choking to death with diphtheritic croup. My assistants were an old lady, who held the patient on her lap, and a boy 12 years old, who held the gag and steadied the head. I had never seen the operation done, yet, with these poor and untrained assistants, the tube was successfully introduced on the third attempt, giving prompt and immediate relief. This was the first intubation performed west of New York City, and probably the first ever done in private practice. Previous to this time the mortality of diphtheritic croup, without surgical interference, was almost 100 per cent. It was the most fatal and the most dreaded of all diseases of childhood. Occasionally a patient would struggle through the disease, but it was a rare event. I well remember having been called to a boy, 10 or 12 years old, who was choking to death with this disease. He was rolling and tossing about the bed, purple, gasping for breath, and clutching at the throat in a vain attempt to find relief. I begged, implored and argued with the mother, an Irish dame, for permission to open the trachea to give the poor lad relief. She obstinately refused, saying: "I would ruther see me bye die than have his wind pipe cut." This statement illustrates the prejudice that prevailed against tracheotomy.

I took my departure, after prescribing an emetic, not being willing to stand idly by, with hands tied, to see the boy strangle to death. A few days later I learned that he was well. In his last violent effort for life he succeeded in expelling a membranous cast of the larnyx and trachea and recovered. Those of us who practiced medicine in those days, know full well that such recoveries were very rare, almost like "angels' visits." When tracheotomy was performed the mortality was somewhat reduced. It was generally estimated that in well-selected cases it amounted to about 75 per cent., but in private practice I had saved but one out of twenty operations, and of 300 operated on in Chicago, the recoveries had been only 9 per cent., a mortality of 91 per cent. Confronted by these facts and this fearful mortality, I felt justified in taking any risk, however great, in the hope that better results might be attained.

My first case terminated fatally. My second operation was performed April 23, 1885. The tube, which was one of the early ones, with a very small rim at the top dropped through the glottis, and I lost not only my tube, but my patient as well. This incident led to the enlargement of the head and a similar accident has never since occurred.

My third operation was on July 16, and likewise, resulted fatally. My patients troubled me greatly by coughing up the tubes every few hours, necessitating their frequent reintroduction. Dr. O'Dwyer, with whom I was keeping up a brisk and most kindly correspondence, suggested a shoulder on the tube, to overcome this difficulty. I therefore, had the tubes made with a projecting shoulder, about three-quarters of an inch below the head; this was subsequently modified by the bulge or swelling in the center of the tube, with which all are familiar, and which to a certain extent overcomes this objection.

My fourth operation was done Sept. 15, 1885, and was successful. The child wore the tube five days. This, as far as I know, was the first patient in private practice to recover, and was a great encouragement, not only to myself, but to Dr. O'Dwyer, as we were both becoming disheartened. By November, 1885, I was able to report eleven cases to the Chicago Medical Society, with four recoveries. From this time on cases multiplied rapidly, as did also my trials and tribulations. Demands came from all parts of Chicago and its suburbs for the operation, and life became a burden.

I recall, among others, a case to which I was called in great haste and at much inconvenience, only to be informed on arrival that the father had decided not to allow an operation. The boy, 5 or 6 years old, was in great distress, suffering all the agonies of slow strangulation. I insisted on the operation in no uncertain terms, and finally the father inquired how much I would charge. I told him it did not matter; would relieve the boy first and talk about the fee later, but he insisted on knowing and when I said I would not charge more than $25 he said: "If you want to do the operation so bad go ahead and do it. If he gets well I will pay you $25, but if he dies you have got to pay me $25." This was a new proposition, but I agreed, and in less time than it takes to tell it the child was relieved; however, the patient subsequently died from the extension of the disease. In another case the father disputed a bill of $25, informing me that all I did was to "run a tube down the child's neck, and that he could have done it himself; it was nothing but robbery" and I could have $5 or nothing. Feeling that this was a small sum for a life-saving operation, it was declined.

In another case the father declined to pay a small fee after two weeks of the most faithful attendance because, as he said, "a brass tube was used, which poisoned the child and caused its death." About this time the coroner was called to investigate one of my cases. It was said that I put plugs in the childrens' throats, and that was what killed them. One of my livliest experiences occurred about this time. I was called one night to remove a tube from a desperate case of diphtheria, on which I had operated a few days before. It was in the dead of night and in one of the tough districts of the city. The patient was desperately ill, and the only hope seemed to be in removing the tube, and while this was quickly and easily done, yet the child suddenly expired in the arms of the assistant from paralysis of the heart. Nothing could convince the father that I had not killed the child, and a hasty retreat was in order. I was followed by a shower of bricks and stones and, with the irate father at my heels, fleetness of foot was all that saved me. During these days my life was frequently threatened by hard, ignorant and tough characters, and it was necessary to go armed, not knowing but that these threats might be carried out any dark night. It appeared to me about time to quit, for in payment for my time and strength and discomfort and risks I rarely received anything but abuse and threats of dire vengeance. Had the city been a smaller one my reputation would have been ruined, but fortunately my patients were so widely scattered that I was still able to hold my own. Dr. O'Dwyer, writing me at this time, said: "I do not know which to admire most, the skill required in doing the operation or the courage in introducing it into private practice." Many and many a time I have said that I would not do the operation again, but this resolve would be no sooner made than there would come an urgent call from some physician who would not be refused, and so the resolve would be broken. An occasional life saved, occasional evidences of the deepest and greatest appreciation and the consciousness that more lives were being saved than by any other known means, enabled me to keep up the work when, otherwise, strength and courage would have failed. I had other trials as well, for it was only natural that any innovation should meet with the disapprobation of many conservative members of our profession. Many a heated discussion occurred over the subject of intubation, as I reported my cases from time to time. The most bitter debate was at the meeting of the American Medical Association, held in Chicago in 1887. One of my staunchest and truest friends was Dr. Charles Warington Earle, now deceased, whose magnificent ability, voice and physique many will remember, and whose watchword in every fight was, "Come on boys." He was one of the early converts to the utility of intubation and its superiority over tracheotomy. He never did the operation, but in every debate his voice was raised in its favor. As a result of the bitter discussion over this subject, at the meeting referred to, a committee was appointed, consisting of Larrabee, of Kentucky, and Jones, of Illinois, to visit my patients and report the results of their investigation through The Journal. After seeing some of the patients who had recovered, others wearing the tubes and operations on others, a most enthusiastic report was made in favor of intubation.[1] Since then there has been but little opposition to the operation. I am convinced that it is a difficult one and that there are but few who can perform it well without long and careful training. To me it has never been difficult, excepting in two instances, and this after a very large experience. In these it was due to subglottic infiltration, and in one tracheotomy was required, while in the other the tube finally crowded through after great difficulty. Dr. O'Dwyer met with the same experience in one or two cases. It is a condition that must be very rare, as in several hundred I have met with but these two.

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[*] An address, delivered on request, before the Denver and Arapahoe County Medical Society, Dec. 11, 1900.

In my brief experience I have seen the mortality of diphtheritic croup almost 100 per cent. without surgical interference. With tracheotomy I have seen it reduced to 75 to 90 per cent.; with the introduction of intubation, to 60 to 75 per cent.; and finally, with intubation supplemented by antitoxin, I have seen this great mortality reduced to almost nothing. It is now sometimes asked if intubation is not unnecessary when we have a specific remedy in antitoxin. It is true that many operations are unnecessary when antitoxin is given early and repeatedly in large doses. It is true that it at once arrests the progress of the disease, but it is also true that many are neglected and not seen by the physician until the larynx has been invaded and the only possible hope is in an immediate operation. Many again commence as a laryngeal diphtheria and death may occur from suffocation before we can get the specific effect of antitoxin. While it prevents further extension of the disease, it does not immediately cause the destruction or disappearance of the obstructing membrane already present. I well remember a case in point, and a most exciting race for life, in which death for once was defeated, although by a narrow margin. One night I received a message from a doctor some miles distant, informing me that his patient, a boy 5 years old, was in a dying condition from diphtheritic croup, although he had given antitoxin. He implored me to make all possible haste, as it was doubtful if the boy could live over a few minutes. He said he would keep up artificial respiration and endeavor to keep him alive until I could arrive. Hurrying thither, I found the little spark of life still fluttering, although the child was purple, unconscious and in the last convulsive death agony. The jaws were pried apart and the gag inserted with great difficulty, but the tube was quickly placed and the child revived, and is living and well today.

In my first 100 cases there were but 27 recoveries; in the second, 34; in the third, 40; in the fourth, 38, and in the fifth, 39, while of my last 70 operations, in connection with antitoxin, there have been but 4 deaths, a mortality of less than 6 per cent. in a disease that formerly was dreaded above all others. With this experience I feel justified in saying most emphatically that any medical man who does not use antitoxin in the treatment of diphtheritic croup is guilty of malpractice, and he who openly opposes its use should be considered a menace to society, for "there are none so blind as those who will not see and none so deaf as those who will not hear."

I can not close without again paying my tribute of honor to the memory of Dr. Joseph O'Dwyer. His name will ever appear among the honored ones in the history of medicine. I have seen the mortality of diphtheritic croup reduced from almost 100 per cent. without operation to almost nothing with intubation supplemented by antitoxin.

For the distressing annoyance caused by the itching and tingling of chilblains, Chaffee applies tincture of iodin directly to the affected parts for two or three nights, which gives quick and complete relief.

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[1] The discussion and report will be found in The Journal A. M. A., of July 30, 1887.

SOME POINTS IN THE DIAGNOSIS OF GALL-STONES.*

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Repeated attacks of colic with the pain in the right hypochondrium, accompanied by nausea and vomiting and followed in a few hours by a slight jaundice, leave little doubt as to the existence of gall-stones. In the majority of cases it is on a history of such attacks with the finding of the calculi in the feces that the diagnosis is made.

But the stones are not always so frank in making known their presence. They manifest themselves by irregular symptoms, they simulate other diseases, and other diseases simulate them, so that it is true, as Hoppe-Seyler says, that if the uncomplicated, regular cholelithiasis is difficult to recognize, much more difficult is it to recognize the irregular and complicated form of the disease.[1] It is to some of the symptoms most likely to be misinterpreted and to some diseases liable wrongly to be regarded as gall-stones that I wish to direct attention.

Pain.—It is well known that the pain of gall-stone colic may not be limited to the right hypochondrium. A favorite spot for its reflection—by way of the phrenic nerve and the cervical plexus—is to the right shoulder and close to the angle of the right scapula. It may be referred to the back and make one think of renal colic, may even shoot downward and toward the genitalia, or be located to the left of the median line, in which condition Mayo Robson has found pyloric adhesions.[2] But the point of reference of the pain that causes many mistakes in diagnosis is one which is frequently complained of by patients and frequently described in articles on the subject, viz., the epigastrium. Recurrent attacks of nausea and vomiting, because they come on a few hours after meals and because there is complaint of pain in the region of the stomach, are repeatedly called gastric neuralgia or acute gastric indigestion, and a slight subsequent jaundice is overlooked or is passed by as a simple accompanying catarrhal jaundice. Attacks of "gastric neuralgia" recurring at irregular intervals, the attacks coming on several hours after meals and especially at night should arouse the suspicion of gall-stones and cause the sclera and urine to be examined for evidence of icterus and the stools for acholia and stones.

Icterus.—Not counting the cases of hepatic colic in which jaundice is overlooked because it is slight, or is not sought for, there are many in which no evidence of icterus is to be discovered, even by the most searching scrutiny of the skin, sclera and urine, and at no time are the feces pale because of absent bile-pigment. These cases often prove confusing and errors are made because of the lack of icterus, which has rightly been considered one of the most important diagnostic aids but which is so frequently absent that it can not be regarded as in any sense pathognomonic or even as an essential factor in diagnosis. In reality, aside from the finding of stones in the feces there is no symptom or sign that is pathognomonic. The diagnosis is one of probability and is made by the symptom-complex.

Jaundice may be lacking after colic because the stone, even though in motion, may drop back into the gall-bladder, or from near the narrow choledochus opening back into the wider portion of the common duct and not enough swelling result to produce the obstructive jaundice. Or small or smooth stones may pass quickly and leave so little local damage and swelling that there is no stagnation of bile. Wolff[3] saw icterus in only one-half of his cases, though, in all, gall-stones were found in the stools. And Fürbringer[4] in three-quarters of his cases failed to find jaundice. Angular or faceted stones may even lodge in the common duct and, because of their shape, leave enough space for the escape of bile, so that the feces are still bile-tinged and no discoloration of the skin, mucous membrane or urine occurs.

These are conditions in which stones moving from the gall-bladder through the cystic into the common duct, and perhaps escaping therefrom, may still leave no trace of their existence in the biliary tint of the skin or urine. But there is a large class of cases of biliary colic in which inflammation plays an important, if not the sole, part. Riedel in particular has called attention to them. These are cases of stone in the gall-bladder where an acute inflammation or the lighting up of a dormant inflammation occurs, the condition being one therefore of cholecystitis and cholangitis, at least a portion of cystic duct being inflamed. The bacteria producing it may have entered from the intestine and primarily have caused the formation of the stone through the inflammation excited, or they may have entered later and have lain quiet so long as conditions were not particularly favorable for their development, or, perhaps, so long as there was good drainage through the cystic duct. But for some reason, at a given time, be it increase in numbers or virulence of the microbes, or movement of the stone to the mouth of the bladder-duct, there is an acute inflammation of the gall-bladder, swelling of its mucosa and that of the cystic duct; the outlet is therefore occluded. Pain, nausea and vomiting are present, and in addition there is tenderness over the gall-bladder; this in many instances may be made out as distinctly enlarged, being distended with the retained bile and inflammatory mucoserous, or mucopurulent exudate. The temperature, if carefully taken, will be found slightly elevated, from one to two or three degrees, above the normal, and may so remain for a few days, as may the local tenderness and swelling. Some of these cases are complicated by a slight, local peritonitis, repeated attacks resulting in adhesions and thickenings about the gall-bladder. The important fact, the misleading fact as it would appear from experience, is that there is no jaundice. The probable diagnosis must be made without its presence, upon the history of previous attacks, the location of the pain, especially over the region of the gall-bladder, its radiation, tenderness over the region of the gall-bladder, the enlargement of the viscus and the slight temperature. No definite statements can as yet be made as to the value of the direction of radiation of the pain as an aid toward locating the stone. It has seemed in some cases, and also from observations made while probing biliary fistulæ, as though pain referred to the right scapular region might mean stone in the cystic duct. The importance of early recognition of gall-bladder stones before chronic inflammatory or ulcerative changes in the bladder and its immediate neighborhood have taken place, or the stone has, perhaps, become lodged in the common duct is self-evident, rendering surgical interference possible at a time when the operation is easier and safer and brings about great results in the way of avoiding unfortunate complications and sequelæ of calculi.

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* Read at the meeting of the North Central Ohio Medical Society, Mansfield, Ohio, Sept. 28, 1900.

Fever.—Since the bacterial era fever in connection with gall-stones has been generally looked on as an evidence of microbic invasion of the biliary tract or of neighboring organs, e. g., the liver, that have been secondarily involved. I wish to make brief reference merely to the fever commonly known, after Charcot, as the hepatic intermittent fever. This is associated with stone or stones in the common duct. Pus or bacteria that can be cultivated, and naked-eye changes in the mucosa are frequently absent. The exact nature of the fever, whether microbic, toxic or both, is still uncertain. It has been compared to urethral fever. In many cases there is jaundice that persists for months or years. At irregular periods chill, fever, sweating, pain in the right hypochondrium, often vomiting, occur, and the jaundice for a time deepens. The freedom with which some of the stones change their position in the duct and the manner in which they intermittently occlude the duodenal opening of the common duct producing jaundice, or of the cystic duct leading to atrophy of the gall-bladder, has been clearly shown by Fenger, in his article on "Stones in the Common Duct and their Surgical Treatment, with Remarks on the Ball-Valve Action of Floating Choledochus Stone."[5]

If in every such case of intermittent hepatic fever there is this periodic closure of the exit of the choledochus, the paroxysm would seemingly be due to retention and absorption of some yet unrecognized toxic material. Osler,[6] who early called attention to this from of gall-stone manifestation, lays, as it seems to me, a little too much stress on the permanence of the jaundice and its invariable appearance after the attack of chill, fever and colic. If in some cases there is an incomplete occlusion, the obstruction may be so slight as to lead to no persistent jaundice. At the time of the paroxysm there is more complete obstruction, but it may be of such short duration that stagnation of the bile and absorption by the lymphatics does not take place to an appreciable extent, and no jaundice appears. That this absence of icterus for long periods, and even after attacks of chill, fever and colic, is not only theoretically the fact but is actually so, is proved by histories of some of Fenger's cases. And I have in two instances seen no jaundice appear after chill, fever, sweat and pain, though, because gall-stones were suspected, the patients, who were under observation in a hospital, were most carefully watched for evidences of the slightest trace of icterus, which ultimately appeared, but was intermittent. And right here I would emphasize the importance, in doubtful cases, of putting the patient in the hospital and keeping him under observation for days or weeks, if necessary, so that the course of the fever, the evidence of icterus in the skin, stools or urine may be properly judged. In both the cases above referred to, it was in this way and this alone that a correct diagnosis was made, as shown by the removal of solitary choledochus stones. The diagnosis in the cases with permanent jaundice or jaundice plainly perceptible after each attack is comparatively easy. The same chill, fever and sweat have been observed in obstruction from pressure, e. g., from carcinoma, hence caution has to be observed in making too positive an ante-operation diagnosis.

Association with Carcinoma.—In the adult and aged particularly, the association of gall-stones and carcinoma is so common as to be regarded as more than accidental. While the question as to which is the primary trouble is not positively settled, the preponderance of evidence is in favor of the view that the gall-stone is in most cases the primary disease, the carcinoma arising in the gall-bladder or bile-duct at the point of irritation by the stone. The possibility of carcinoma being found along with the calculus should make one circumspect as to his diagnosis and prognosis, particularly when with advanced age there is an unusually rapid loss of weight and strength, with anemia, and increasing size of the liver that is in these cases so often the seat of secondary growths by direct extension or metastasis. Palpable and perhaps nodular masses in the region of the gall-bladder, when associated with cachexia, would arouse suspicion of a neoplasm. Yet inflammatory exudates and thickening of tissue will readily deceive. In fact, even with the abdomen opened, the surgeon is often in doubt as to whether the hard and thickened tissue in the neighborhood of the stone is inflammatory or neoplastic.

Riedel's Tongue-Shaped Process.—A projection of the lower, i. e., anterior border of the liver as a tongue-shaped process has been described by Riedel as found in many cases of gall-bladder stone where there is pericystic thickening. This tongue-like projection is oftenest seen in women with the corset-liver and gall-stone. In its physical properties it is not unlike a tumor of the gall-bladder, the right kidney or the large intestine. If its possible existence is remembered it can frequently be recognized by its shape, its edge, its location, its respiratory mobility, its situation above and in front of colon, as well as by the positive signs and symptoms in the previous history pointing to gall-stones and the absence of symptoms indicating renal or intestinal new-growths. Extremely confusing is the condition in which Riedel's process is crossed by the adherent intestine. The projection is then separated from the bulk of the liver by an area of tympany, especially noticeable with the colon distended with air, and it is not to be wondered at that the process is often regarded as a kidney or as a new growth of the intestine or omentum. Eichhorst, as well as others, speaks particularly of the difficulty of diagnosis in such cases. One such I have seen trip up one of the acutest diagnosticians of Europe.

Relation of Typhoid Fever to Gall-Stone.—The relation between typhoid fever and cholelithiasis is in some cases so close that a history of typhoid a few months or years before adds a probability to a diagnosis of gall-stones. The researches of Chiari[7] and others show the great frequency with which typhoid bacilli are found in the gall-bladder and the bile of patients dying of typhoid, there being in some cases naked-eye evidence of cholecystitis. Recent observations have confirmed these statements, and have shown bacilli in bile many months after the subsidence of the fever. The changes they produce in the mucous membrane of the gall-bladder are those favoring the shedding of the epithelium and the increase in the amount of cholesterin, i. e., Naunyn's requirements for the production of calculi are met. Typhoid bacilli have been found in the nuclei of stones; stones have shown themselves by symptoms soon after attacks of typhoid, and autopsies on patients dying several months or a few years after typhoid fever have, in not a few instances, shown gall-stones with typhoid bacilli in the gall-bladder. There seems little reason to doubt that gall-stone formation is favored by the presence of typhoid germs in the gall-bladder, and that they are frequently present in that situation during typhoid. The value, therefore, of inquiry into the history for typhoid is clear.

Conditions that Simulate Gall-Stones.—Thus far I have spoken only of points concerning diagnosis where gall-stones are actually present. I wish now to call attention to a few conditions that may simulate gall-stones and thus lead to error in diagnosis. Ulcer of the stomach, neuralgia of the stomach, renal, intestinal and lead colic are all so freely discussed in text-book articles, and so quickly occur to the mind of one examining a patient with suspected gall-stones, that I will not refer to them further, but take up briefly a few diseases that I have found confusing to myself and others. Theoretically, some of them ought not to confuse. But practice and theory are here, as in many other situations, not always in harmony. Some of these conditions if once thought of will be readily recognized. But one of our great troubles in diagnosis is that our attention is easily attracted by some striking feature of a case toward some particular disease of which it may be a prominent symptom. We are apt to forget that this same symptom may be a minor or exceptional manifestation of some other disease that will be overlooked unless it accidentally comes to our mind, or unless it thrusts itself forward by other symptoms revealed during a thorough routine examination.

To illustrate this point, let me cite the case of a man whom I saw in my ward at the Cook County Hospital, suffering severe pain which he referred chiefly to the epigastrium. In response to my inquiry as to what was the cause of the pain, he replied that it was gall-stones, that he had been operated on for them several months before, had had relief for a few months, but now the same periodic pains had returned and he was sure some stones had been overlooked or others had formed. He had the operation-scar to confirm his statements. My first thought was that the man was right, for stones can be readily overlooked at an operation and recurrences are by no means unknown.[8] But the points to which the pain radiated, into the arms and thighs, made me examine more closely, and I found the ear-marks of tabes—loss of knee-jerk, Romberg's symptom, Argyll-Robertson pupil, etc., and his epigastric pains were but the gastric crises of that disease. I have no reason to question the statement made by the surgeon to the patient, that he removed gallstones but I narrowly escaped wrongly consigning the patient to the surgical ward and to an unnecessary second operation.

Angina Pectoris.—I have once or twice been puzzled to differentiate between gall-stones and angina. The pain of gall-stones may, as has been said, be referred to the left side and may even appear in the breast, and anginal pain may involve the epigastrium. In general, however, the thickened condition of the arteries, the enlargement of the heart, the distinct precordial location of the pain with its radiation to the neck and left arm, the violent, grasping, vise-like nature of the pain with the sense of impending death, the absence of later jaundice, etc., make a diagnosis a simple matter.

Senile Pneumonia.—The pain of pleurisy, especially when it involves the lower right side and the diaphragm, is often referred to the abdomen. With pneumonia there may be vomiting, and not infrequently icterus, the latter perhaps from an accompanying catarrhal jaundice. A patient, therefore, with acute epigastric and right hypochondriac pain, nausea and vomiting, chill and fever and subsequent jaundice, resembles in many respects a case of gall-stones. This was first impressed on me by the case of a physician of about 60 years, who called me to see him after he had been ill and treating himself for two days. He told me he thought he had gall-stones and cholecystitis, for he had sharp pain in the region of the gall-bladder, with fever and jaundice. The condition was, however, one of right lower lobe pneumonia of the senile type, with comparatively slight cough and expectoration.

Localized Peritonitis.—Acute peritonitis or exacerbation of a chronic peritonitis may, if in the region of the gall-bladder, make one think seriously of gall-stones. A man of about 23, who a few years before had passed through an attack of typhoid fever, had been annoyed for ten months with what at first he regarded as indigestion. At irregular intervals, on four or five occasions, he had suffered from poor appetite for a day or two, coated tongue, then severe pain in the epigastrium and right hypochondrium, vomiting and fever. These attacks had gradually subsided, leaving him rather weak, with some soreness just below the right costal arch. His last attack had been quite severe and his physician thought it was due to gall-stones. Jaundice had been doubtful. The history led me to suspect gall-stones with cholecystitis and extension of inflammation to the neighboring peritoneum, for there was in the neighborhood of the gall-bladder, after the acute symptoms had subsided, a resistance and tenderness, though for days no temperature. This diagnosis was concurred in by another physician and by the surgeon who operated. We found an extensive tuberculous peritonitis, but no gall-stones. Recovery from the operation—a simple opening and loosening of adhesions—was followed in the course of several weeks by a great improvement in local and constitutional symptoms and a gain of twenty-five pounds in weight. The patient is still living and reports himself well over a year from the time of operation. Appendicitis, intestinal obstruction, hemorrhagic pancreatitis may resemble gall-stones with inflammation of the gall-bladder or neighboring peritoneum. Of the difficulty of differentiating between gall-stones and intestinal obstruction a case recorded by Fenger[9] is a good example where an operation done for suspected intestinal obstruction revealed no obstruction, but a distended gall-bladder, yielding on opening, a large number of calculi, the symptoms of ileus disappearing after the removal of the stones.

Hernia of the linea alba, Dietl's crisis in floating kidney, hysteria, malaria with neuralgic pain and jaundice, might be mentioned as conditions occasionally simulating gall-stones, and I must call attention to the not infrequent association of cholelithiasis and other diseases. I have already mentioned typhoid fever and carcinoma of the gall-bladder. Diabetes, gout, obesity and renal calculi are many times found with gall-stones; and, accidentally, any disease may occur in a patient who has gall-stones, as in the case of tabes I have cited.

I have aimed in this rather cursory manner to refer only to a few points, especially those I have found puzzling to myself or others, and have made no effort to go into the details of diagnosis of gall-stones with the numerous possible complications and sequelæ.

BIBLIOGRAPHY.

1. Die Krankheiten der Leber. Quincke and Hoppe-Seyler in Nothnagel's System.
2. Allbutt's System, v, p. 241.
3. Quoted by Hoppe-Seyler, p. 220, loc. cit.
4. Fenger: Am. Jour. of the Med. Sci., February and March, 1896.
5. Osler: On Fever of Hepatic Origin, etc.; Johns Hopkins Hospital Reports, ii, 1890. Also, On the Ball-Valve Gall-Stone in the Common Duct; The Lancet, 1897, p. 1319.
6. Zeitschrift f. Heilkunde, Bd. xv, 1894.
7. See Hermann: Ueber Recidive nach Gallsteinoperationen; Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie, Bd. v, Hft. 3; also, Kehr-Halberstadt, Münch. Med. Woch., May 22, 1900.
8. Fenger: Chicago Medical Recorder, April, 1898, p. 310.

THE PRESENT STATUS OF SPINAL SURGERY.*

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(Continued from page 1014.)

TUMORS.

This field of surgical activity only dates back to 1887. Gowers and Horsley were the first to undertake any operation for intravertebral tumor, but since then many other surgeons have had satisfactory results. It is true that tumors involving the spine had been operated on earlier, but they were favorable cases where there was an extravertebral manifestation. Of the 58 reported by Gowers and Horsley, all the patients died except the one operated on by Mr. Horsley, yet 80 per cent. of these could have been completely relieved by operation, and those which were hopeless might have been benefited if the pressure had been removed. The careful studies made by Starr, Mills and Gowers and many other observers have enabled the surgeon to do brilliant work in this class of cases. There can be no question of what one would do in a case of extravertebral tumor producing pressure on the cord, and with the present status of laminectomy there is no reason why any intravertebral tumor should not be attacked with every confidence of an improvement in the patient's condition. It is hardly necessary for us to attempt a tabulation or a classification of the tumors which may involve this region of the body. This has already been carefully done and can be found in almost any of the standard text-books. The question with us is a simple one. Given the probable existence of compression of the cord, not amenable to medical treatment, surgical intervention should be the rule. The neurologist now localizes these regions so accurately that there is little difficulty in determining the point of the spine to be attacked, and as most of these tumors are small, owing to the confined space in which they develop, the area of the vertebral column which is to be removed is of very small moment. Chipault collected 22 cases of operations on spinal tumors, and Keen added 3 more; 11 of these patients recovered, 11 died, and the result in 3 is uncertain. I have been able to collect 51; of these 16 recovered, 4 improved, 2 were unimproved, and 5 died immediately and 23 some time after the operation.

In the cases reported by Keen I find that he includes my own case of fracture of the third lumbar vertebra, in which the compression was due to callus. If these are to be regarded as cases of tumor, I have had several instances, both in the Pott's and fracture classes, where I have operated that might be tabulated. While the conditions are identical, I do not feel that these cases should be classified among tumors, and have therefore not included them in my tabulation. I have operated on one case of hydatids (see table, Case 51) of the back with compression of the cord. In this case the diagnosis of an inoperable sarcoma had been made. When I first saw the patient my intention was simply to relieve the pressure on the cord, by resecting that portion of the growth which involved the vertebral canal, in order to relieve the compression and the pain. On more careful examination, after the patient entered the hospital, I concluded that I was dealing with a multilocular cystic condition and made a puncture, which at once revealed the presence of the hydatids. A complete operation was therefore undertaken with a complete recovery. At the time that I presented this case before the surgical section of the New York Academy of Medicine, Nov. 9, 1896, I expressed the opinion that the man would ultimately recover. Not long after that he returned to his business as a traveling salesman, and was able to go about with ease. Unfortunately, however, he was killed by a railroad accident about six months later. In this case the compression was between the eighth and ninth dorsal vertebræ.

TABLE OF GROWTHS, REGION AND FREQUENCY.

The following table gives the different growths that have been recorded, as well as the region and frequency of their occurrence.

Kind.	Number.	Intradural.	Extradural.	Unclassified.	Intra-Vertebral.	Extra-Vertebral.	Cervical.	Dorsal.	Lumbar.	Sacral.	Recovery.	Improved.	No Improvement.	Death from Operation.	Subsequent death.
Cancer	2	.	2	.	1	1	.	1	1	.	.	.	.	.	2
Abscess	2	.	2	.	.	2	.	2	.	.	.	.	.	.	2
Sarcoma	15	1	7	2	5	1	2	12	.	.	1	2	.	2	9
Myxosarcoma	1	1	.	.	.	.	.	1	.	.	.		1		.
Echinococcus	8	1	7	.	2	5	.	5	3	.	3	.	.		5
Myxoma	1	1	.	.	.		.	.	.	.	1	.			
Connective tissue mass	2	.	2	.		.	.	2	.	.	2	.		.	.
Unclassified	10	4	4	.		2	.	9	.	.	4	.	1	2	2
Lymphangeoma	2	.	2	.	1	.	.	.	2	.	1	1	.	.	.
Psammoma	2	1	.	1	1		.	2	.	.	1	.	.	.	1
Chondro-sarcoma	1	.	1	.	.		.	1	.	.	.	1	.	.	.
Osteo-sarcoma	1		1		.	1	.	1	.	.	.	.	.	.	1
Lipoma	3	1	1	.		1	.	.	2	1	2	.			1
Enchondroma	1	.	.			1	.	1	.	.	.	.	1	.	.

A glance at this table immediately explains the large number of deaths recorded, but not due to operative interference. For instance, 2 of these were due to carcinoma, 2 to abscess, 9 to sarcoma, 5 to echinococci, 2 were unclassified, 1 was due to psammoma, 1 to an osteosarcoma, and 1 to a lipoma. It is at once evident that a complete and radical cure was impossible in many of these, and yet no one who has witnessed the sufferings that these patients have to bear and the relief they receive when the pressure is removed, will say that the operation was unjustifiable. Only 8 per cent. have died as a direct result of the operation itself. In the 23 dying some time after the operation, there was marked relief, as a rule, from the intense pain and general discomfort, and it may be considered an established fact that the patient was more comfortable and died a less horrible death than would have been the case without the operation. The recoveries here are 31.37 per cent. with only 9.80 per cent. immediate or operative deaths. Undoubtedly earlier diagnosis and a consequent earlier operation will improve these results.

TUMORS.

CASE 1.—Operator, Lecat, 1751. Lumbar region; extravertebral carcinoma; male. After a traumatism, tumor appeared which destroyed the spinous processes of the 4 upper lumbar vertebræ and the medullary sheath. Removal. Death after 2 days. Reference: Chipault, Chir. Medullaire, p. 350.

CASE 2.—Operator, Reydellet, 1819. Lumbar region; extradural hydatid cyst; female, 26. Complete anesthesia of lower limbs, difficulty in defecation, right leg became paralyzed. Tumor opened and hydatids enucleated, cord exposed. Death. Reference: Idem.

CASE 3.—Operator, Johnson, 1856. Duration, born so; sacral region; extradural, extravertebral lipoma; male, 10 months. Child born with an opening in the sacral region; 3 weeks later an ulcer appeared situated on a small tumor. The ulcer healed, but the tumor increased in size. Convulsive movements of the right leg were noticed. One tumor enucleated, another found with pedicle passing into vertebral canal. This also enucleated. Improved. Reference: Idem.

CASE 4.—Operator, Gerster, 1878. Dorsal region; extradural at first; intravertebral sarcoma. Paraplegia. Removal of greater part. Dura was destroyed at many points. Escape of large amount of cerebrospinal fluid. Sensibility and motion improved. Death. Reference: Idem.

CASE 5.—Operator, Bazy, 1886-91. Duration, 18 months; lumbar region; both extra- and intradural and extra- and intravertebral hydatids; female, 45 years. Gradual weakening of the lower limbs with accompanying pain, and also in lumbar region. Incontinence of urine, incomplete paraplegia specially marked on right side; projection in the lumbar region, fluctuating. Right lamina of 4th was found destroyed, cavity into the body of the vertebræ. Dura had been perforated and hydatids found therein, which were washed out with boric solution; rubber drain. Pain in lower limbs; large amount of cerebrospinal fluid escaped. Death 15 days later. Reference: Idem.

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Case 6.—Operator Bazy, 1886-91. Cervical region; intradural cysts; male adult. Atrophy of the muscles of the scapula led to the diagnosis of compression at the 4th C. Removal of 4th and 5th C. arches. Dura opened and cyst found under pia. Reference: Idem.

Case 7.—Operator, Wright, 1888. Duration, 20 years; cervical region; intravertebral fibrosarcoma; male, 38. Tumor on left side of neck, which gradually increased in size, weakness in the left arm, then left leg, right arm, right leg; reflexes exaggerated. Tumor encapsulated. Prolongation into the 3rd foramen. Another tumor found, both in contact with brachial plexus. Improvement. Reference: Idem.

Case 8.—Operator, Abbe, 1889. Dorsal region; extradural, intravertebral. Eighth and 10th arches removed. Improvement. Reference: N. Y. Medical Record, Feb. 9, 1889.

Case 9.—Operator, Sonnenberg, 1889. Dorsal region; extradural, extravertebral sarcoma. Removal of whole tumor impossible. Death in 6 weeks. Reference: Verhand. d. Deutsch. Gesell. f. Chir., April, 1889.

Case 10.—Operator, Abbe, 1890 Dorsal region; extradural sarcoma; male, 42. Eighth and 9th dorsal arches removed. Death on 9th day. Reference: N. Y. Medical Record, 1890, p. 85.

Case 11.—Operator, Horsley, 1890. Intradural; male, 52. Complete paraplegia. Four arches removed. Death from shock. Reference: International Congress, Berlin, 1890.

Case 12.—Operator, Kelly, 1890. Dorsal region; intradural. Recovery. Reference: Southern Med. Record, vol. xx.

Case 13.—Operator, Bardeleben, 1889. Dorsal region; extradural, extravertebral and intravertebral enchondroma; male, 65. Tumor size of nut, 7 cm. from spine at bottom of scapula. Slow in growth. Paraplegia and vesical paralysis. Removed, seen to pass into canal between 7th and 8th dorsal. Death. Reference: Chipault, Chir. Medullaire.

Case 14.—Operator, Leaquer, 1890. Duration, 2 years; dorso-sacral region; extradural lymph-angioma; male, 19. Pain in sacral region most intense at night; pain on pressure; slight lumbar kyphosis, slight atrophy of quadriceps, diminution of tendon reflexes, rectal and vesical paresis. Posterior wall of sacrum opened, tumor taken from middle of sacrum. Improvement. Reference: Idem., p. 357.

Case 15.—Operator, Fenger, 1891. Dorsal region; extradural, intravertebral; sarcoma. Male, 38. Complete anesthesia of trunk and lower extremities. Removal of 4th and 5th dorsal arches. Death on 5th day from septicemia. Reference: Am. Jour. Med. Sc., *vol. ciii, p. 405.*

Case 16.—Operator, Lane. Duration, 3 years. Dorsal; extradural, intravertebral; boy. Fell and struck side 12 months ago; felt pain; 1 month later found projection on back. Wore Sayres jacket 3 months. Six months ago lost power in legs, sensation decreased, occasional incontinence, knee and ankle clonus marked, plantar reflex absent. Arch of 4th, 5th, 6th and 7th D. removed. Abscess anterior to cord. It contained cheesy matter and large pieces of necrosed bone. Cavity filled with iodoform; drain for 36 days. Movement and sensation increased, then movement almost disappeared. Second operation showed more caseous matter; very slight improvement. Reference: Brit. Med. Journal, 1891, p. 1227.

Case 17.—Operators, Ramson and Anderson. Duration, 32 months; dorsal region; extradural intravertebral hydatid cyst; male, 42. Had had gonorrhea and was alcoholic; gnawing pain in back and down legs, which suddenly left at the end of 4 weeks and returned occasionally during next 4 months; it then returned and legs were stiff, weak and numb. Lost sexual power, knee-jerks absent, no ankle clonus. Finally, loss of sensation and motion of lower limbs; bedsores. Arches of 11th and 12th D., 1st and 2nd L. removed; forceps used; dura not sutured. Death. Post-mortem examination showed 2 cavities in the right erector spinæ muscle containing grey pultaceous matter. Tumor in canal at 10th D. not connected with the others. Reference: Brit. Med. Journal, 1891, vol. ii, p. 1144.

Case 18.—Operators, Davies and Colley, 1892. Duration, 7 years; dorsal region; extradural extravertebral sarcoma; female, 23. Shooting pains in back and chest; 1 month ago lost sensation in lower limbs; had incontinence of urine and feces and then lost power of motion. Is well nourished and healthy. Large boss opposite 4th and 5th D., projection hard; no pain, knee-jerk, plantar reflex and ankle clonus present. Smooth whitish growth, in right vertebral groove, attached to the right 5th and 6th D. laminæ. These were removed. Dura healthy, but cord compressed and soft. Drain used. Complete recovery. Reference: Trans. of Clin. Soc., London, 1891-2, xxv.

Case 19.—Operator, Temoin, 1892. Duration, since birth; lumbar region; intradural lipoma; female, 11 months. At birth there was a small tumor about size of hazel nut in lumbar region; gradually increased in size. Tumor removed; pedicle going into canal closed with catgut sutures. Respiration ceased momentarily while pulling on pedicle. Reference: Chipault, op. cit., p. 359.

Case 20.—Operator, Rehn, 1891. Duration, 2 years; sacral region; extradural intravertebral lymphangioma; male, 19. Severe pains in sacral region; 1 year later, complete anesthesia and paraplegia of lower limbs; patellar reflex present, bladder and rectum normal; pain on pressure and constant boring sensation over sacrum. Later, rectal and vesical paralysis; tendon reflexes absent. Sacral canal opened up to 5th L. Marked improvement. Reference: Neurol Centralbl., 1891, p. 193.

Case 21.—Operator, Zavaleta. Duration, 4 months; lumbar region; extra- and intradural and extra- and intravertebral lipoma; aged 6 months. Child otherwise normal. Firm, irreducible tumor at 4th L. Pedicle penetrated canal between 4th and 5th arches, through dura; was dissected away from arachnoid; dura closed. Death 2½ months later. Reference: Chipault, op. cit., p. 346.

Case 22.—Operator, Lichthen, 1890. Dorsal region; intradural psammoma. Death after two days. Reference: Deut. Med. Woch., 1891, p. 1386.

Case 23.—Operator, Lichthen, 1890. Dorsal region; psammoma. Improvement. Reference: Idem.

Case 24.—Operators, Ransom and Thompson. Dorsal region; extradural sarcoma. Death on 6th day. Reference: Am. Jour. of Med. Sci., clx, p. 634.

Case 25.—Operators, Ransom and Anderson, 1892. Dorsal region; hydatid cyst. Operation too low down; cyst not found. Death 3 days later. Reference: Brit. Med. Jour., 1892, ii, p. *1144.*

Case 26.—Operators, Capanoto and Pescarolo, 1892. Dorsal region; intradural myxo-sarcoma. Improvement after 5 months. Reference: La Reforma Med., 1892, p. 543.

Case 27.—Operator, Szekeres, 1893. Duration, 12 years; dorsal region; extradural extravertebral echinococcus; male, 32. Swelling over spine for 12 years; pain disappeared with application of cold; complete paraplegia and anesthesia in lower limbs. Recovery. Reference: Pester, Chir. Presse, 1894, p. 43.

Case 28.—Operator, Lamphear, 1892. Duration, 17 months; dorsal region; extradural intravertebral; female, 47. Had dizzy spells in 1886. Two years before operation, slight loss of motion and spasmodic contraction in lower limbs; 17 months before operation, intense pain and paraplegia in legs, anesthesia to diaphragm, bladder and rectum involved; two months later had slight control over legs for a short time, which was soon lost; large bedsore. Bedsores covered with collodion and excised. Arches of 12th D., 1st, 2nd and 3rd L. removed with saw and chisel. Hard, almond-sized tumor on periosteum. Lamina of 2nd D. soft; granulation-like tissue pressing into canal. Death through carelessness of nurse. Reference: Medicine, vol. ii, 1896, p. 25.

Case 29.—Operator, Horsley. Dorsal region; extradural echinococcus. Recovery. Reference: Chir. Jour., London, 1896-7, p. 97.

Case 30.—Operator, Ignatoff. Dorsal region; extradural chondrosarcoma; female, 35. Improved. Reference: Vayenno Med. Jour., 1896.

Case 31.—Operator, Curtis, 1893. Duration, 6 months; extravertebral cancer; female, 35. Breast amputated for tumor. Pain and stiffness on left side and shoulder, anesthesia of forearm, pharynx and conjunctiva; knee reflex increased; complete anesthesia and paraplegia below umbilicus; rectal and vesical paralysis; kyphosis at middorsal region. Sixth D. arch removed. Death 16 days later. Reference: N. Y. Med. Record, vol. liii, p. 346.

Case 32.—Operator, Rogers, 1897. Duration, 7 months; dorsal region; extravertebral tumor; male, 28. Submitted to long exposure. Pain in thorax increased for 4 months; no motion without pain. Slight recovery, then sensation of something "moving down inner side of legs." No pain. *Six months later could not* stand or void urine; lost motion of lower extremities; T. 102, P. 110; anorexia, vomiting, pain; 1st D. *spine sensitive to pressure*; knee-jerks increased, especially left; ankle clonus slight on right, decided on left. Diagnosis, "tumor of spine." Removal of 4th and 5th dorsal arches; extended afterward; 4th and 5th D. completely disorganized, the transverse *processes* being separated at their bases. Lesions too extensive for removal. Death 9 days after. Reference: Phila. Med. Journal, 1898, vol. i, p. 332.

Case 33.—Operators, Eskridge and Freeman, 1897. *Duration* 1 year; D. region; intradural tumor. Paralysis, motion and sensation varied, sometimes absent; superficial reflexes absent; pain in back. On admission T. 100 F., P. 96, *resp.* 22; paralysis of bladder and rectum; sensation further impaired. Laminæ of 4th and 5th dorsal removed. An almond-shaped tumor of the arachnoid. Complete recovery. Reference: Idem, vol. ii, 1898, p. 1236.

Case 34.—*Operators*, Quesnel and Garten, 1896. Duration, 2 years; dorsal region; intravertebral sarcoma; male, 28. Mother neurasthenic and lame; patient healthy. Fell 3 meters, struck on back, was *unconscious*; worked next day. Well 1 year, then had bladder trouble and weakness in legs; symptoms increased; in bed last few months. At time of operation paraplegia and anesthesia of *lower limbs*, bladder and rectum; pulse normal; left plant. reflex stronger; no ankle clonus; sensation absent below 11th D. After Urban, 5th to 9th arches removed; slight pulsation appeared. *Death* in 6 days. Post-mortem examination showed meningitis basilaris. Reference: Neurol. Centralbl., 1898, p. 482.

Case 35.—Operator, Thompson, 1893. Duration, 20 months; dorsal region; extradural intravertebral sarcoma; male, 50. Pains in epigastrium and over dorsal spines; 3 weeks later weakness and pain in legs; knee-jerks exaggerated, no ankle clonus; 4 days later double ankle clonus and anesthesia in front of thighs; lost power in lower limbs; 3 weeks later sensation lost near 8th and 9th D. spines and anterior ends of corresponding ribs. Trephine used; 7th, 8th, 9th and 10th D. arches removed; cord normal. Death 6 days later. Reference: Brit. Med. Journal, 1894, *p.* 395.

Case 36.—Operators, Burns and Credal. Duration, 22 months; intradural; female, 24. Severe pains in back extending afterward to legs and abdomen; one year later weakness in right *foot*, with *slight paralysis*; one year later left leg also affected; fibrosarcoma in right ear; bladder disturbance, patellar reflex weak. All symptoms became worse. No tumor found, no pulsation of cord. Death. Reference: Archiv. Psychiatrie, xxviii, p. 97.

Case 37.—Operator, Burns, 1894. Dorsal region; extradural sarcoma. Sudden death within 24 hours. Reference: Neurol. Centralblatt, 1894, p. 389.

Case 38.—Operator, Burns. Dorso-lumbo-sacral region; sarcoma. Tumor not found. Death after 14 months. Reference: Idem, p. 281.

Case 39.—Operators, Saenger and Krause, 1894. Dorsal region; extradural sarcoma. Tumor removed. Death on 4th day. Reference: Munich Med. Woch., 1894.

Case 40.—Operators, Horsley and Gowers, 1888. Dorsal region; intradural myxoma. Removal of 4th and 5th D. arches. Recovery. Reference: Starr, Am. Jour. Med. Sci., ciii.

Case 41.—Operator, MacEwen, 1888. Dorsal region; extradural connective tissue mass. Removal of 5th to 7th D. arches. Recovery. Reference: Idem.

Case 42.—Operator, MacEwen, 1888. Dorsal region; extradural connective tissue mass. Tumor removed. Recovery. Reference: Idem.

Case 43.—Operator, Barclay, 1894. Duration, 29 months; cervicodorsal region; extradural endothelioma; male, 28. Fell from bicycle. Partial paralysis of all limbs; gradual increase of paraplegia and anesthesia; knee *and* ankle clonus and plantar reflexes present; upper abdominal reflex absent; no control over bladder. Fourth, 5th, 6th and 7th C. arches removed. Death from hemorrhage. Reference: Brain, xviii, *p.* 256, 1895.

Case 44.—Operator, McCosh, 1894. Dorsal region; extradural sarcoma. Progressive anesthesia reaching to 7th intercostal space behind, ensiform in front. Third, 4th, 5th and 6th D. arches removed. Death 17 days later, supposedly *from* sarcomata in viscera. Reference: Am. Jour. Med. Sci., cix, p. 618, 1895.

Case 46.—Operators, McBurney and Starr. Dorsal region. Complete anesthesia and paraplegia in lower limbs. Arches of 9th, 10th and 11th D. removed; tumor removed. Partial recovery; recurrence and death later. Reference: Idem, p. 626.

Case 47.—Operator, Warren, 1898. Duration, 16 months; dorsal region; intradural; female, 52. Severe pains over lower ribs; six months later weakness and pain in left leg, pain on moving head and opening mouth; knee-jerk exaggerated, ankle clonus present. At time of operation could not stand alone nor control bladder; lost sensation in lower limbs, especially right. Eleventh and 12th D. arches removed. Tumor size of an olive in pia; dura stitched with silk; gauze drain. Good recovery. Reference Am. Jour. Med. Science, vol. cxviii, 1899.

Cases 48 and 49.—Case 1, operator, Keen, 1891; Case 2, operator, Warren. Duration, Case 1, 11 years; Case 2, 17 years. Dorsal region; intradural; cord seemed like sarcomatous tissue. Male, 34. Great pain, then gradual loss of sensation and motion for 9 years; finally complete paralysis of motion and sensation, bladder and rectum involved. Chills (not malarial) 4 years after pain in back. Case 1, operation, arches of 7th, 8th and 9th D. removed. Complete recovery. Case 2, operation, same location. Complete recovery. Reference: Idem.

Case 50.—Operator, Elliott. Duration, 3 years; upper cervical region: extradural sarcoma. Male, 24. Fell from ladder; neck injured twice later. Gradual paralysis below neck of all muscles except diaphragm. Posterior surface of axis eroded. Sarcomatous tissue removed. Fair recovery. Reference: Idem.

Case 51.—Operator, Lloyd, 1896. Duration, 9 years; dorsal region; extradural intravertebral echinococcus; male, 57. History of slight rheumatic attacks in back for 5 years, then severe pain in lumbar region when standing. Two years later small tumor at right of lumbar spine, gradually increasing until a series of cysts extended from left side of upper margin of sacrum and over to right side and upward to middle of scapula. Another cyst, size of fetal head, extended retroperitoneally into abdomen. Twelve years later paraplegia began and became almost complete in 1 year. Tactile, pain and temperature senses decidedly impaired as high as crests of ilia. Exaggeration of patellar reflexes. No reaction of degeneration; vesical paralysis; girdle pain; crepitation over tumor peculiar to echinococcus cysts; dyspnea, anemia. Laminæ of 8th and 9th dorsal on right side partially removed during extirpation of large number of cysts. Complete recovery. Reference: Am. Med. Surg. Bull., Dec. 5, 1896.

FRACTURES.

Thanks to the work that has been done by the neurologists, we are able to get a better idea of those cases of fracture of the spine which are amenable to operative interference, although as yet we must confess that the rules advanced can not be absolutely applied to any definite case. One must consider the region of the spine involved before attempting a prognosis. The recoveries from operative interference in the cervical region have been very few; the mortality is much greater than in such interference in other regions. The functional results are by no means so satisfactory as when the lower dorsal or lumbar regions are involved. The type of fracture also naturally affects the prognosis. An indirect fracture, i. e., one with bending of the spine accompanied by fracture-dislocation of one or more vertebræ and with the symptoms of complete separation or degeneration of the cord, as evidenced by the rapid appearance of bed-sores, not due to the direct pressure, and to the complete paraplegia and anesthesia, including the paresis of the rectum and of the bladder and with obliteration of the reflexes, would naturally contraindicate operative interference. There can be no hope of restoring function to a destroyed spinal cord in these cases. The injury has been sufficient to pulpify the cord and that area of softening is usually of considerable extent and produces complete obliteration of all nervous control below the segment affected. As there is no known way of grafting new cord or removing destroyed portions of it, or of grafting posterior nerve roots into the cord below, as suggested by Dana, it is a waste of time and an unnecessary cruelty to the patient to submit him to any operative interference.

In the other class of cases, however, where the patient has recovered sufficiently from the immediate shock, where the cord shows that it has not been completely destroyed by the recovery of more or less of the sensation or motion or exaggeration of one or several reflexes, by the continued healthy condition of the skin, even though atrophy be present, operative interference may result in great benefit to the patient.

Keen has said that 20 per cent. of fractures of the spine are simple fractures, that 20 per cent. are simple dislocations, while 60 per cent. are both fracture and dislocation.

Fracture dislocations of the vertebra nearly always produce more or less injury to the cord, and Chipault does not believe in the generally-accepted idea that the spine in these cases springs forward so as to bruise and destroy the cord, and then immediately on the removal of the force producing the lesion, springs back again into, or nearly into, place. Thorburn, however, believes this cause to be exceedingly common and much more so in the cervical region than elsewhere.

Naturally a serious injury to the cord—in this way—in addition to producing degeneration of the involved segment is rapidly followed by inflammatory softening, so that we frequently find, as these cases recover from the immediate shock of the injury, that we have an increasing paraplegia and anesthesia. The bodies of the vertebræ are more frequently fractured than the arches, and, naturally, when this occurs the cord may be destroyed by the displaced fragments of the body, but fractures of the spinous processes or of the arches do occur without any injury to the cord itself. In this latter set of cases no treatment may be necessary other than the rest in bed, and possibly the application of a plaster jacket or other spinal assistant, but it should be remembered that occasionally where the arches are fractured without injury to the cord the paraplegia may begin at a later date and may be due to the formation of callus on the inner side of the lamina, as in the case I reported in my former paper, or to inflammatory exudation.

The question of localization of injuries of the spine has been thoroughly considered by Thorburn, Keen, and others, and it is not necessary for us to repeat what is already thoroughly outlined. It is, however, important that we should in all cases of fracture of the spine that may come to operative treatment observe the difference between the effects of total and partial injuries of the cord as shown by the reflexes. Bastian, Bowlby, Thorburn, and Herter have studied these phenomena. Their conclusions may be briefly stated, that in complete transverse destructive lesions of the cord there will invariably be complete paraplegia below the level of the injury, complete anesthesia below the level of the distribution of the injured nerves, and complete and permanent obliteration of the knee-jerk and deep reflexes of both sides, but if the transverse lesion of the cord is only partial, the paralysis and anesthesia will be incomplete, while the deep reflexes may remain normal or be exaggerated, and the bladder and rectum follow the same general rule as the deep reflexes . Keen says that if immediately after the accident the knee-jerk on both sides is absent and remains so, operation is contraindicated. He adds that there is no question that as a general rule the persistent absence of the reflexes, especially of the knee-jerks, is an evidence that the cord has been so completely destroyed that operation would be unwise, and yet he adds, there are a few happy exceptions to the rule. In this connection he reports a case of Schede's, one of Hammond and Phelps', and one of his own. In this last case, one of dorso-lumbar dislocation, the knee-jerks had been absent for eighteen months, but returned within a week after the operation. He considers that Schede's success was owing to the early date of the operation, sixteen hours after the accident.

Had this rule of not operating in the absence of the knee-jerks been followed in these cases, the patient would undoubtedly have remained permanently paralyzed, while in every instance they regained more or less complete function. This has also been illustrated in the case of mine, operated on within the past few days. Here complete paraplegia and anesthesia below the fifth lumbar segment, according to Starr's classification, were present at the time of the injury. The deep reflexes were also obliterated. Six weeks later the patient had recovered slight power in the adductor muscles of the right side, and had some control over the rectum and bladder. The day following the operation hyperesthesia was present on the right side over a large portion of the formerly anesthetic area, while the adductor power had moderately increased; and forty-eight hours later he had begun to recover his reflexes and was markedly hyperesthetic on both sides. This, then, can not be taken as an absolute rule, and I feel inclined to differ with Keen in the conclusion that the obliteration of the deep reflexes is an absolute contraindication to operation. It is important for us to decide whether the lesion is a complete degeneration of the cord or whether it is a simple compression of that organ. In the former case it is useless to operate; in the latter it becomes necessary to consider at what time the operation can best be performed.

In my former paper I said that if operation is undertaken at once there is danger of interference where a spontaneous cure would result if the patient were left alone, or where a complete destruction of the cord renders operative interference useless. If, however, operation be delayed too long, and a compression be allowed to continue, a degeneration may result which would be as serious as though the functions of the cord had been destroyed by the original injury. Lauenstein said that if, after the lapse of six or ten weeks, there is incontinence of urine with cystitis or incontinence of feces, and especially if there has also developed a spreading of bed-sores, but little is to be hoped from the efforts of Nature. Horsley insisted that operation should be undertaken early, and this was my own opinion as expressed at that time, provided the symptoms present indicated interference with the functions of the cord. In other cases I should wait until the shock following the injury had been overcome, watching the patient's condition carefully, however, and at the slightest indication of any symptoms pointing to an extension of the interference with the action of the spinal cord, whether that interference be due to hemorrhage or to compression from depression, callus or to the exudation of lymph, I should operate at once. Chipault says, in this connection, that in all traumatisms of the cord there are three serious lesions: 1. A zone consisting of that portion of the cord which is directly destroyed, which may be of greater or less extent, and which undergoes complete necrosis following the destruction of the nervous elements; this degeneration is complete. 2. A zone above and below the former, in which the nervous elements are injured but not absolutely destroyed. Within two or three days the nerve cells are increased in size and their protoplasm becomes granular, the cylinder axes form a sort of chaplet, the myelin is broken into segments. This beginning of degeneration close to the injured part can be determined by noting the involvement of the motor and sensory centers immediately above the site of the injury. If the cause of compression is removed, both cylinder axes and myelin may undergo a certain amount of regeneration by the ninth day. If the cause of the compression persist or the injury is sufficiently grave, the destruction of the cord of this zone is permanent and is followed by sclerosis. 3. Secondary degeneration sets in at a very early date; this is due not to the direct injury but probably to the separation of the nervous elements from the trophic centers. The degeneration extends above and below the site of the lesion, and begins as early as the fourth day, and continuing to extend for many months it follows the general trend of the Wallerian degeneration; from the site of the lesion downward the motor fibers degenerate and the sensory proceed in the reverse direction. The early date at which these lesions have been recognized, especially by animal experimentation, as well as by clinical experience, shows that if intervention is undertaken at all, with any hope of amelioration, the earlier it is done the better.

In this connection, however, it is important to take into account the general results following fractures of the spine treated without operation, and the same statistics that I used in my former paper will illustrate this point. Thus, Gurlt reported 217 deaths out of 270 fractures, or over 80 per cent.; while Burrill, from the tables of the Boston City Hospital, cited 82 cases with 64 deaths, or 79 per cent., and of the 22 per cent. of recoveries, only 11 per cent. were satisfactory, the other 11 per cent. being completely disabled. These statistics also show that in the fatal cases the greater number of deaths occurred within a few days. It is, therefore, evident that if we operate immediately after the injury we will have failures that should not be charged against the operation itself, and if possible we should wait before operating until the question can be settled whether the patient will overcome the shock or succumb directly to the effects of the injury.

There is another objection to immediate operation. In so-called concussion of the spine, there may be a certain amount of anesthesia and paralysis. The recovery, however, will be complete, or at least so nearly so that no appreciable lesion can be made out. Immediate operations in these cases would be unnecessary, as they would have recovered spontaneously had they been left alone for a sufficient length of time. It is impossible, too, in the first few hours, to determine with any degree of certainty, how severe the injury really is, nor can we absolutely localize the injury to the cord. In my opinion, therefore, we should wait until this period of shock has passed and until it is evident that there will be no spontaneous recovery complete enough to render life bearable. If after this period has passed, the patient still continues to improve, no operative interference should be considered, but as soon as the symptoms begin to show retrograde phenomena or seem to have reached the end of the improvement, operation should be undertaken.

(To be continued.)

Spinal Cocainization Free from all Dangers.—Bier announces in a private letter to Reclus, published in the *Presse Médicale* of April 3, that he has worked out a technique of spinal cocainization which is "exempt from dangers." He was to make it public at the German Medical Congress that convened at Berlin April 11. After a few attempts and a personal experience with spinal cocainization on himself, he warned against the methods in vogue at present as mentioned in The Journal at the time. Folet reports, in the *Echo Médical* of March 31, another death in progressive collapse five days after spinal cocainization. No analgesia was induced and the operation was postponed for two days and performed under chloroform. The patient was a man of 50, in satisfactory condition.

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A NEW FORENSIC METHOD OF DIFFERENTIATING HUMAN AND ANIMAL BLOOD.

The difficulty in determining the character of stains resembling blood, and, when they are recognized as such, in deciding whether they are derived from human beings or lower animals, is often a matter of the highest importance, particularly from the medicolegal standpoint. Under favorable conditions, when the stains are not too old, it can be determined that they are due to blood, by spectroscopic examination and by the development of hematin crystals, and their source can sometimes be established from the physical characteristics of the cells contained, more especially with regard to their size and form and the presence or absence of nuclei. Inasmuch as life may hang in the balance in *accordance with the decision, the need of more trustworthy procedure must be only too obvious.*

It has been discovered that the blood of an animal to which has been added blood from another species contains specific substances that cause agglutination and solution of the red cells of the latter, but have no influence upon the blood from any other source. It was next found that the employment of other fluids in the same way yielded corresponding results. In pursuing this line of investigation Wassermann and Schütze[1] started out to determine whether the substances thus formed are strictly specific, that is active only with regard to the albuminous fluids employed for injection. They found that the serum obtained after the injection of cow's milk contains substances capable of coagulating the casein of cow's milk, but not of the milk of other animals, and vice versa. It then suggested itself that this biologic method might be employed for the special differentiation of various proteid substances.

Accordingly, rabbits were treated with defibrinized human blood, but it was found necessary for a considerable number of well-preserved red blood-corpuscles to be present in the suspected material to be examined in order that a reaction should be discerned. For this reason cell-free blood-serum was then employed. Accordingly, rabbits were given five or six subcutaneous injections of 10 c.c. each of cell-free human blood-serum at intervals of about two days. Some six days after the last injection the animal was bled, and the blood placed upon ice to permit of separation of the serum. If, now, to a dilution of human blood-serum with physiologic salt-solution or to a dilute solution of human blood with distilled water, .5 c.c. of the rabbit's blood-serum were *added, a distinct cloudy precipitate took place* at once at room-temperature, becoming more marked at a temperature of 37 degrees in the thermostat. On the other hand, no turbidity whatever developed on addition of serum to diluted blood from any of the animals with which one ordinarily comes in contact—twenty-three different animals being examined for this purpose—with the single exception of the monkey, and in this animal the reaction was less prompt and less marked than in man. So much having been determined for fresh blood, the same tests were applied to blood dried on various articles, after the lapse of three months, with the same results.

The reaction may, therefore, be considered specific, and it should prove of great value, especially for medicolegal purposes. If the diluted blood is turbid before *addition of the serum it should be filtered until it* becomes absolutely clear. Further, no cloudiness was *induced with the blood-serum from a rabbit not previously treated with human blood-serum.* In actual *practice it is advisable to divide the solution of the suspected blood into two equal parts, one of which is* exposed to the action of the blood-serum of a previously treated rabbit and the other to that of a rabbit not so treated. Besides, the blood-serum of the prepared animal might be added to a dilution of blood from another animal. The development of the reaction in the first and not in the other two would be positive evidence that the suspected substance is really derived from human blood.

It is pointed out that the blood for the objects of the *test could be obtained from the application of leeches or other form of bleeding for therapeutic purposes,* or by expression from the placenta after parturition. Further, it may be found that a similar end can be attained by the use of considerable amounts of human pleural or abdominal effusion. Observations of an entirely analogous character to those here recited are reported also by Uhlenbluth.[2]

THE HISTOPATHOLOGY OF THE PANCREAS, ESPECIALLY IN ITS RELATIONS TO DIABETES.

The pancreas is an acinar gland, but its structure is not as simple as indicated by this statement. As shown first by Langerhans, in 1869, there are also peculiar, round groups of small cells distinct from the acini, *penetrated by wide, tortuous capillaries, and without connection with the pancreatic ducts.* These bodies *are present in all vertebrates from an early embryonal* period. In honor of their discoverer these bodies are referred to as the islands of Langerhans. Studied by Kühne and Lea, Lewaschew, Laguesse, and Schafer, their nature and function have remained obscure. Recently their behavior under pathologic conditions of the pancreas has commenced to attract attention.

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[1] Berliner Klin. Woch., No. 7, 1901, p. 187.

[2] Deutsche Med. Woch., Feb. 7, 1901.

Ssobolew[1] has made a brief preliminary statement concerning these bodies under abnormal conditions with especial reference to diabetes, and Opie,[2] in an important series of papers dealing with the histology and pathology of the pancreas, brings out much of interest in regard to the islands of Langerhans. Opie found that in the tail of the cat's pancreas each lobule contains in the center one of these bodies. In the human pancreas the arrangement is much more irregular, though the bodies are several times more numerous in the pancreas than elsewhere. In the chronic interstitial pancreatitis of congenital syphilis, in which there is a very extensive interlobular and interacinar production of new fibrous tissue, the islands seem to maintain their integrity, as shown in instances examined by Opie, Condon, and others. Opie distinguishes two types of chronic pancreatitis in the fully developed organ, based largely upon the distribution of the fibrous tissue, namely the interlobular and interacinar. In the first, in which the tissue between the lobules is especially affected by the sclerotic process, the islands of Langerhans remain intact except in the most advanced areas. Ssobolew notes the long persistence of the islands in atrophy of the pancreas from ligation of the duct. Among other anatomic factors that may explain this resistance may be mentioned the fact that the islands do not communicate with the lumen of the ducts, and are thus not directly involved when there is obstruction or infection of the ducts. In the interacinar form of chronic pancreatitis there is new fibrous tissue produced within the lobules, and in this form there is proliferation of interstitial tissue within the islands of Langerhans as well.

Now as to the relations of changes in the islands of Langerhans to diabetes mellitus of pancreatic origin, it may be noted that Opie found demonstrable lesions in the islands in four cases of this kind examined: one was an advanced interlobular, sclerotic pancreatitis with altered islands, two were chronic interacinous inflammations, and one—the fourth—was associated with a remarkable hyaline change of the islands so that intact islands were no longer discoverable; the hyaline areas were nearly a millimeter in diameter and visible to the naked eye. Ssobolew states that he found no trace of the islands in the pancreas of two diabetics. While far-reaching deductions are out of question without more and greatly extended observations, the last case of Opie's, diabetes with hyaline islands, is an interesting one indeed, because here the lesion is confined so closely to the bodies that conditions are produced almost answering the requirements of experimental excision, which is impossible.

These observations, taken in conjunction with the intimate relations of the cells of the islands to rich capillary networks, show that there is nothing radically unreasonable in the as yet largely theoretic suggestion that the islands of Langerhans have an internal secretion the suspension of which leads to diabetes mellitus.

RUPTURE OF THE DUCTUS ARTERIOSUS.

During intrauterine life, when the functions of the fetus are largely performed by its parent, blood from the mother passes through the umbilical vein, the hepatic veins and the inferior vena cava to the right auricle and ventricle. Some of the blood of the right auricle passes through the imperforate interauricular septum into the left auricle and thence into the left ventricle. The left auricle receives comparatively little blood from the lungs through the pulmonary veins. From the right ventricle the blood is sent into the pulmonary artery, but inasmuch as the lungs of the embryo are not actively engaged in their function of pneumatosis the greater portion of this blood is diverted through the ductus arteriosus into the aorta, which receives comparatively little blood from the pulmonary vein, through the left auricle and ventricle. With the entrance of the child upon extrauterine existence the lungs expand and the blood is sent to them through the pulmonary artery in increased amount, and therefore through the ductus arteriosus in lessened amount. After being aerated in the lungs, the blood is returned in increased amount to the left auricle through the pulmonary veins. The necessity for the communication between the auricles and between the pulmonary artery and the aorta being removed, they gradually close under ordinary conditions, although exceptionally one or the other remains patulous for a varying length of time and perhaps even throughout a long life.

It has been shown that the entrance of the ductus arteriosus into the aorta is controlled by a sort of valve-like arrangement, and that while it is possible to inject the duct with gelatin or plaster under ordinary pressure through the aorta in a backward direction, this is not possible in the forward direction. If, however, the pressure is increased beyond a certain degree the restraining influence of the valve will be overcome and the injection material will enter the duct also under the latter condition. Under ordinary circumstances, thus, the flow of blood through the ductus arteriosus ceases soon after birth, and with the cessation of its usefulness the duct gradually loses its elasticity and finally undergoes obliteration. Under extraordinary circumstances, however, as in two cases recently reported by Roeder,[1] the pressure in the aorta may be so greatly increased that the duct is ruptured; and the suggestion is made that such a condition—if not actual rupture, at least, laceration of intima or media of the duct—might be found more commonly than reports would show, if it were carefully looked for. The cases of Roeder are believed to be the first of the kind recorded in the literature. The mother of each child was healthy and presented no evidence of syphilis. One was a primapara, 25 years old, and had been illegitimately pregnant. The other was the wife of a laborer and had previously borne two healthy children. In both cases pregnancy and parturition had been normal and the umbilical wound had healed without complication. The one child was a male, had presented by the sacrum and had died on the third day. It was feeble and jaundiced and exhibited considerable dyspnea with small mucous râles. Postmortem examination disclosed the presence of bronchitis, general stasis, multiple rupture of the ductus arteriosus, laceration of the intima of the pulmonary artery near the duct, marked gastric catarrh with erosions, uric-acid infarction of the kidney, and respiratory furrows in the liver. The second child was a female and was found dead on the fourth day. She presented an enlarged thyroid gland and marked acceleration of breathing with numerous râles. Postmortem examination disclosed extensive hemorrhage into the middle lobe of each lung, rupture and a dissecting aneurysm of the ductus arteriosus, bronchitis, congenital goiter, uric-acid infarction of both kidneys, gastrointestinal catarrh and edema and hyperemia of the brain. The question is raised whether, in the first of these cases, the slight lesion in the duct, that may be supposed to have occurred as a result of increased pressure in the aorta in connection with the sacral presentation, might have led to no ill result had not the aspiration of mucus and amniotic liquor given rise to the development of bronchitis, with interference in the evolution of the lungs, and further increase in the blood-pressure. In the second case the question naturally suggests itself as to the part played by the enlarged thyroid gland in causing circulatory disturbances by compression of the trachea and large veins. In each case no histologic abnormality of the walls of the ruptured vessel was found on microscopic examination.

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[1] Centralb. f. Path., 1901, xi, 202-3.

[2] Jour. Exp. Med., 1901, iv, 397-428; Jour. A. M. A., ¶ 54, p. 1146.

[1] Berliner Klin. Woch., 1901, No. 3, p. 72.

PROFUSE HEMATEMESIS WITHOUT LESION OF THE STOMACH.

Blood in small amount may escape from vessels without solution in continuity as a result of increased blood-pressure or from changes in their walls induced by mechanical, chemical or thermal influences. Free hemorrhage, on the other hand, can, it is believed, occur only when a blood-vessel is opened. Occasionally, however, cases are seen in which the escape of blood is so considerable as to justify the inference of a vascular lesion, which postmortem examination may fail to disclose, and for which we are as yet without a satisfactory explanation. Such bleeding may take the form of gastrorrhagia and hematemesis, and enterorrhagia and hematuria. It is possible that in some cases the actual source of hemorrhage has been overlooked, while in others careful histological examination might disclose unsuspected disease of the vessels.

A case of profuse hematemesis simulating gastric ulcer with perforation, terminating fatally, and in which no lesion was found after death has recently been reported by H. G. Chapman.[1] The patient, after vomiting and bringing up a "basin full of blood" came under observation on account of weakness and vomiting. She was anemic and complained of epigastric pain made worse by eating. The temperature was normal, the pulse accelerated, respiration easy. There was tenderness over the upper part of the abdomen and some retraction and rigidity. Food by the mouth could not be retained, and nutrient enemata were therefore given. After the patient had been under observation for two weeks she was suddenly seized with pain, which grew severe and was followed by vomiting. The abdomen became slightly distended and the abdominal muscles markedly rigid, with complete loss of hepatic percussion-dulness. The patient was collapsed and perspiring freely. Her pulse was 120, of small volume and low tension. Perforation was diagnosed and celiotomy undertaken. The stomach was brought entirely out of the wound but no abnormality could be found. Further search failed to disclose perforation of the bowel, ruptured tubal gestation, perforation of the appendix or the gall-bladder, and the peritoneum was quite clean and free from inflammation. The wound was closed and saline and brandy enemata given, but the patient failed to rally, and commenced to vomit brown-colored, coffee-ground material in the course of a few hours. Stimulants, cardiants and infusions were also employed, but death took place on the third day after operation.

On postmortem examination the stomach contained some dark-brown fluid, with a few clots, but careful search from the esophagus to the sigmoid flexure failed to disclose any ulcer or abrasion. The liver and spleen were normal, and the lungs exhibited no pathologic condition. The aorta was the seat of slight degenerative change. The capsules of the kidneys were slightly adherent, but the cortex of these organs was wide and regular. The opinion expressed by the pathologist is that a specific arteritis was present and that the hemorrhage had resulted from the rupture of a small vessel into the stomach.

A PHYSICIAN NOT OBLIGED TO ANSWER CALL.

Some time ago we noticed the starting of a suit against a physician of Indiana for damages for refusing to respond to a call for his services. The plaintiff's complaint was based on the theory that under the state laws of Indiana, the defendant, having been duly licensed, was obliged to meet demands for his services when it was in his power to do so. The defendant physician, through his counsel, demurred to each paragraph of the complaint, holding that the facts did not constitute a cause for action against him. The demurrer was sustained in the circuit court and an appeal taken by the plaintiff to the supreme court, which has just rendered its decision that the medical practice act is a preventive, not a compulsive measure. This decision will be found in our medicolegal department this week. In obtaining a state license to practice medicine, it says, it is not required and the license does not engage that the recipient will practice at all, or that he will practice on any other terms than he may choose to accept. In other words, the physician is his own master and not a public slave, at the beck and call of whoever may demand his professional care.

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[1] Intercolonial Med. Jour. of Australasia, 1901, No. 2, p. 369.

Without discussing the merits or demerits of the special case involved, the principle established by the decision is the only rational one and it is well that it has been authoritatively settled in a community where such a suit could be seriously maintained. It is strange that the belief can anywhere be held that a professional man who draws no compensation from the state or community should be considered a public, or quasi public, servant simply because the law demands of him certain qualifications before permitting him to earn his living in his chosen way. That would be adding to the burdens of the already overburdened practitioner with a vengeance. The fact is, the public has often very little sense of justice as regards the medical profession, notwithstanding its dependence upon it in times of trouble. Good evidence of this is given in the newspaper comments on the present case, some of which are magnificent examples of Pharisaic virtue, feeling acutely for others' sins and utterly unconscious of their own.

We would not be understood in the least as ignoring the moral obligations of the physician to attend cases in need—no physician worthy of the name would be wilfully guilty of violating them, and it is safe to say that there is no class in the community that lives up to them more. In the present instance we are informed that some of the *ex varte* statements sent out, on which some of the criticisms were based, were falsehoods, and this materially alters certain aspects of the case. However this may be, there is no right nor justice in falsely assuming a legal obligation that may be made to embarrass the physicians where no moral obligations exist. The decision, while it is the only rational one, may serve as a useful precedent and as a preventive of future similar misconceptions of law and justice.

THE WORKING OF THE TENNESSEE MEDICAL LAW.

At the recent state medical examination in Tennessee there were thirteen applicants from outside the state, ten of whom passed, and 150 from Tennessee colleges, all of whom were passed without examination. This shows the effect of recent legislation exempting Tennessee graduates, but this is not all; a number of new schools were reported and at least one had already its graduate applying for a license. Besides medical schools of varying pretensions there were magnetic schools whose output had also to be licensed under the law. The state has now over two thousand medical students in its institutions, of all classes, and bids fair to become overrun with its own legalized graduates before the idiotic legislation responsible for present conditions can be repealed. There are possibilities almost as bad as being a dumping-ground from outside sources, and Tennessee seems likely to experience them.

ANTIVIVISECTION IN MASSACHUSETTS.

A number of eminently and otherwise respectable individuals in Massachusetts have recently been pushing, in the legislature, certain bills against physiologic experimentation as at present practiced in that commonwealth. All the stock arguments were employed to advance the bills, together with the usual misrepresentations that are regularly sent out by them in their Boston publications. Massachusetts, however, is a rather compact community, and the legislators sensibly concluded that personal knowledge of what was directly under their eyes was a better basis for law making than hysterical sentimentalism. They have, therefore, inspected for themselves, and while we have not yet learned the result, it is hinted by the eastern papers that the indications are not favorable to the antivivisectionists. In any case we have the assurance that the facts have been presented to the legislative committee by men fully competent to demonstrate the utility of physiologic experimentation and its humanity in the highest sense of the word. If they decide wrongly it will be with the full responsibility of knowledge on the subject.

RESPIRATORY CHEMISM OF TUBERCULOSIS.

The studies of the respiratory chemistry in phthisis, by MM. Robin and Binet, a résumé of which is given elsewhere in this issue of The Journal, are striking in several respects. In the first place it is a research along a comparatively new line in the study of tuberculosis, and the facts developed are significant. They open up a wide field for conjectures; the research seems incomplete and suggestive rather than satisfying in most respects. The most important point thus far established is the diagnostic one; if we are to be able to foretell a predisposition not otherwise revealed, it is a step in advance. Why one descendant of tuberculous parents, without any evidence of bacterial infection, should show these anomalies of pulmonary gas exchange and another not is not readily explainable, and the authors' suggestion of a special soil in these cases is perhaps the one most allowable. The fact also that the conditions in arthritism are the reverse in this respect from those in tuberculosis are significant in connection with the apparent observed incompatibility of the two conditions. Robin and Binet's work, though as yet incomplete, is apparently one of the important recent contributions to the literature of pulmonary tuberculosis. It need hardly be said that it does not make out, as some of the lay press has reported it, that a surplus of oxygen is a cause of pulmonary phthisis, but, if its findings and views are to be accepted, it justifies pathologically the name "consumption" that has always been the popular designation of the disease.

INTERNATIONAL CATALOGUE OF SCIENTIFIC LITERATURE.

It is a common failing of mankind to long for what it has not and to be unappreciative of what it possesses. No medical man whose studies necessitate reference to the literature of his subject can have failed, many times and deeply, to regret the dissolution of the *Index Medicus*. It is true that the deficiency resulting therefrom has been made good in part by the publication of various indices and digests, but it must be admitted that none, or even all of these together, represent the completeness that gave especial value to the *Index Medicus*. The latest endeavor in this direction consists in the formation, under the auspices of the Royal Society, of an international catalogue of scientific literature, as the result of several international conferences in the course of the last few years. The work of cataloguing has already been begun and is in active progress; and it is hoped that all papers published after January 1 of the present year will be indexed, both according to subject and according to author. Each participating nation is to be responsible for the indexing of the papers published in that country, and a central bureau is to collect, coordinate and publish the results of the labors of the various national bureaus. The perfection and the success of the work can be materially contributed to by the cooperation of medical authors, in sending to the respective bureaus separate copies, or full titles, with notes and place and date, of their publications; and, also index-slips indicating under two or three main headings the subjects treated. Such a bureau has already been opened in London for Great Britain, but we have not as yet seen any notice of the establishment of an American bureau, and we are without details as to the exact mode and form of publication and distribution. The plan appears to be entirely feasible, and it is most heartily deserving of success. It should receive the unstinted support of the medical profession the world over, as the utility of such a catalogue is not to be overestimated.

EXPERIMENTAL LUMBAR PUNCTURE TO PROVE TUBERCLE BACILLI PRESENT.

It is well known that in the fluid obtained by lumbar puncture in cases of tuberculous meningitis, tubercle bacilli are often missed in cover-glass preparations and in cultures. The inoculation experiment is more positive in its results, but these results are only obtained after several weeks have elapsed, at which time the patient may be dead. More rapid, yet just as certain, inoculation methods have been sought, and to this end there has been practiced direct injection of the fluid into the cerebral subarachnoidean space through a trephined opening. Results have been uncertain and traumatic damage to the meninges and brain not inconsiderable. Recently Hellendall[1] has tried, by means of lumbar puncture, the injection into the spinal subarachnoidean space of the guinea-pig, of fluid from cases of tuberculous meningitis, hoping in this manner to excite a tuberculous meningitis, with symptoms and macroscopic anatomical changes developing more rapidly than where the injection of the suspected fluid is in the peritoneal cavity. This case will enable an earlier diagnosis to be made. To his surprise, however, meningitic symptoms did not appear. Instead, by way of the lymph-channels, the retroperitoneal lymph-glands became tuberculous and there was general diffuse tuberculosis of the liver, spleen, lungs, etc., as after injections into the peritoneal cavity, death occurring in from four to eight weeks. On Hellendall's own showing the lumbar puncture in the guinea-pig is not easy of accomplishment, considerable uncertainty always being felt as to whether the point of the needle is in the subarachnoidean space. While, therefore, tubercle bacilli may find the soil and environment more favorable for growth in this locality than in the peritoneum, so that a smaller quantity of the suspected fluid may suffice, the advantage, where a sufficient amount of fluid can be obtained by lumbar puncture from the suspected case, will still remain with the peritoneum.

MALPIGHI, SWAMMERDAM AND LEEUWENHOEK.

We hear so much of the superiority of modern methods of investigation, of modern research and modern discoveries that we are apt to forget that there is a great debt owing some of the investigators of decades and even centuries ago. Not only did these men labor earnestly and carefully, but they often inculcated correct methods, and made many positive and permanent additions to knowledge. One is surprised to find, in reading Laennec, not only what acute clinical observations he made and how he correlated these with the results of painstaking autopsy findings, but how he, the pioneer in auscultation, worked out the subject in such a manner that comparatively little has been added to it in three-quarters of a century. Too little credit is given to the earlier workers; the thought of the present is constantly taken up with the wonderful discoveries of the recent past and the earnest search for the truths of the future. It is fitting, therefore, that our attention occasionally be directed backward. Prof. W. A. Locy has done this in an interesting article on Malpighi, Swammerdam and Leeuwenhoek.[1] It must excite the admiration of all who read to learn how much was accomplished by these seventeenth century enthusiasts. The Italian not only left his name on a layer of the skin and certain structures in the spleen and kidney, and not only did he make important observations on the structure of the heart, the lung and glandular structures, "but he was the first to insist on the analogies of structure between organs throughout the animal kingdom, and to make extensive practical use of the idea that discoveries on simpler animals can be utilized in interpreting the similar structures in the higher ones." His monograph on the structure and metamorphosis of the silkworm, his work on the anatomy of plants and his labors in embryology stamp him as a skilled naturalist imbued with the true scientific spirit. And the same spirit is seen in the Hollanders, Swammerdam and Leeuwenhoek. The work of the former, especially his "Anatomy and Metamorphosis of Insects," is declared to be, in its descriptions, a model of accuracy and completeness. Leeuwenhoek, with his crude microscopes, yet careful observations of histologic structure in plants, man and the lower animals, contributed much to the stock of knowledge and aided in establishing scientific methods in place of the mystic and fantastic theorizing then in vogue. When we think of the limited opportunities, the poverty in suitable instruments, the simplicity of histologic technique, and the preconceived notions of anatomy and physiology tending to lead one astray toward theory and away from fact, the wonder is that they wrought so well and accomplished so much. It is good for us to pause occasionally and consider whether, after all, with our added facilities and advantages for work, we are so superior in methods, in scientific spirit and, relatively speaking, in results, to some of these master minds of long ago.

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[1] Deutsch. Med. Woch., March 28, 1901.

[1] Popular Science Monthly, April, 1901.

Medical News.

CALIFORNIA.

Walter E. Garry, Ph.D., has been elected professor of physiology in Cooper Medical College, San Francisco.

A new hospital is to be built in West Redding, by Dr. John M. Read, and will accommodate ten or more patients. The building will cost about $4000.

The French Hospital, San Francisco, at its annual meeting elected Drs. Luke H. F. J. Marson, F. R. Orelia and Joseph E. Artigues, members of its staff.

The State Board of Medical Examiners has filed its answer in the suit brought by a graduate of the Pacific Coast Regular College of Medicine to compel the issuance of a license to practice. The answer sets forth that the college did not meet the minimum standard of requirements for recognized colleges of medicine, and that the refusal to accept and recognize its diplomas was taken after an investigation and due deliberation, in which no prejudice or malice entered.

COLORADO.

The Jefferson medical bill, which contains an amendment providing that "Christian Scientists" shall not be permitted to treat infectious or contagious diseases, has passed the senate.

"Dr." A. C. Burroughs, Ouray, has been deprived of his license to practice, by the State Board of Medical Examiners which held that his affidavit of ten years' practice was false, and that he was a "healer" and not a physician.

An Industrial Sanatorium for the relief of consumptives has been incorporated in Denver, by Dr. A. Mansfield Holmes and others. The plan provides for the erection of a sanatorium about twenty miles from Denver, which is to be conducted as an industrial colony. It is expected that the large amount of money required will be raised by the "cottage endowment plan." By utilizing the labor of patients it is expected that nearly all of the work of the institution will be performed, the entire sanatorium supplied with provisions, and a great variety of remunerative industries carried on.

GEORGIA.

The State Board of Medical Examiners, at its session in Augusta, April 3, examined sixty-nine applicants for license to practice medicine in the state.

Georgia Pasteur Institute and Laboratory.—The board of governors held its first semi-annual meeting in Atlanta, April 12. The report of the physician-in-charge, Dr. James N. Brawner, showed that since December 1, 11 patients had been treated, 8 of whom were bitten by rabid dogs, as proved by inoculation of rabbits. All the patients improved under treatment and were dismissed as cured. Dr. Claude A. Smith, the secretary and pathologist, made a satisfactory report of work done in his department.

IDAHO.

An epidemic of smallpox prevails at Samaria, where sixty cases are reported with, it is said, no effort being made to quarantine the infected houses.

C. K. Ah Fong, Boise, who filed a petition asking the district court to review the action of the State Board of Medical Examiners in refusing to issue him a license to practice medicine, has won his suit and the board has been instructed to issue a license to Dr. Ah Fong.

The State Board of Medical Examiners, at its recent meeting in Boise, examined eleven candidates, to seven of whom it issued licenses to practice. It also passed a resolution urging on regular practitioners the necessity of creating by voluntary contributions a fund for the prosecution of illegal and irregular practitioners.

ILLINOIS.

Report of Births and Deaths.—A bill has been introduced in the senate and referred to the committee on judiciary which provides for the report of births within thirty days, and a payment of 25 cents for each report, and for the report of deaths, a similar payment; it regulates interment or other disposal of dead bodies, and prescribes a penalty for non-compliance with the provisions of the act.

State Colony for Epileptics.—Two sites are contending for the location of the state colony for epileptics, to be founded if the bill now before the legislature becomes a law; one at Grand Detour about 100 miles from Chicago, and the other at Elsah, 270 miles from Chicago, and 230 miles from the center of population of the state. The project will involve an initial expenditure of about $250,000.

Chicago.

Low Mortality.—Another week of remarkably low mortality is reported by the health department, the total deaths, 445, being 6 fewer than reported during the previous week and 113 fewer than in the corresponding week a year ago. Thus far this year there have been 1046 fewer deaths than in the first fifteen weeks of 1900—a dcrease of more than one-eighth, or 13 per cent. The deaths for the week numbered 445, a death-rate of 13.16 per 1000. per annum. Of these 148 were due to diseases of the respiratory system and 30 to violence. Influenza, which was at its height in the middle of last April, continues steadily to decline—only 3 deaths being referred to this cause last week and 27 in the corresponding week of 1900. To the subsidence of this mischievous malady is attributed the continued low death-rate among the aged and the decrease of pneumonia deaths—93 deaths of those over 60 last week, 142 last year; 67 deaths from pneumonia last week, 127 last year.

The Smallpox Situation.—The unusual character of the smallpox epidemic continues to attract the attention of sanitarians and health officers. Since the beginning of the year 12,344 cases of the disease have been reported to the Marine-Hospital Service as against only 7410 last year, an increase of nearly five thousand cases, or 66.5 per cent. On the other hand, only 180 deaths are reported this year against 391 last year, a decrease of 72.4 per cent. in the mortality rate. It is probable that some share of the increased number of cases reported this year is due to more careful diagnosis; the disease has been so mild and the mortality so insignificant throughout this epidemic that cases frequently escaped recognition in the early period. In this city, for example, there has been but one death from the disease since the first case detected, Nov. 30, 1900. The experience in New York City, however, shows that smallpox is still to be dreaded by the unvaccinated. Between December 1, last year, and March 23, 1901, out of a total of 474 cases there were 70 deaths—a mortality rate of nearly 15 per cent. In this city the lesson of neglected vaccination, although not so deadly, is still sufficiently striking. There have been 175 cases of smallpox found in Chicago between Nov. 30, 1900, and April 13, 1901, the period of the present epidemic: of this number 143 had never been vaccinated. Of the remaining 32 cases, 30 were adults showing faint, poor or irregular scars claimed to be evidence of attempted vaccination in infancy or early childhood—the most recent being 23 years old. Only two out of the 171 cases exhibited typical scars of successful vaccination. Of these one was 35 years old—"vaccinated when a child," revaccination attempted three years ago, without results; vaccin lymph probably inert. The other was 40 years old, also successfully vaccinated in childhood, but never revaccinated. These are the only two cases out of the total 175 on whom vaccination was ever successfully attempted, and the most recent of these was more than thirty years ago. This shows conclusively that successful vaccination in childhood. and successful revaccination after, are the only sure safeguards against smallpox.

INDIANA.

St. Edward's Hospital.—A permit has been issued by the city of New Albany to the Sisters of St. Francis to erect a hospital at Seventh and Spring Streets.

The Central College of Physicians and Surgeons, Indianapolis, held its thirty-second annual commencement, April 4, and issued diplomas to a class of 22. Prof. A. J. Banker, Columbus, delivered an address on "Medicine as a Profession vs. Medicine as a Business."

The Medical College of Indiana held its thirty-first annual commencement exercises at Indianapolis, April 8. President Gobin of De Pauw University delivered the address of the evening on "The Physician as a Publicist." Degrees were conferred on a class of forty-six, six of whom were women.

Rare heroism was displayed by Margaret Wallman and Kate Nolan, nurses at the Woman's department of the insane hospital at Mount Jackson, near Indianapolis. When the building caught fire, April 10, these nurses succeeded in removing all the patients uninjured, but in this work the rescuers were severely scorched. The fire caused a property loss of about $1500.

Smallpox.—During March 472 cases were reported with 5 deaths. In Switzerland County, 220 cases, and in Lawrence county 101. The disease is generally mild, but not a few are more or less severe. In all new localities invaded, the uninformed physicians fail to recognize the disease, but what is worse, usually cling to their erroneous-diagnosis and so make it hard to apply preventive measures.

State Board of Health Report.——This, for March, shows 3272 deaths, a mortality of 15.3 per 1000 per annum, slightly higher than that for March, 1900—15 per 1000. Tuberculosis caused 373 deaths; influenza, 174; pneumonia, 603; and violence, 114. In cities, 1164 deaths occurred, and in rural districts, 2108. The diseases which decreased in area of prevalence during March were: bronchitis, influenza, pneumonia, tonsillitis, diphtheria, typhoid fever, and inflammation of the bowels. Those increasing in area of prevalence were: rheumatism, measles, intermittent fever, diarrheal troubles, whooping-cough.

IOWA.

Dr. Carl Teske has been elected health officer of Sioux City, on the seventieth ballot.

Keokuk Medical College held its commencement exercises April 9, and conferred degrees on a class of 51. Prof. William C. Howell delivered the doctorate address.

KENTUCKY.

Dr. Joseph M. Mathews, Louisville, will deliver the doctorate address before the graduating class of the medical department of the University of Illinois.

Dr. Henry E. Tuley read a paper entitled "Some Rambling Thoughts on Infant Feeding," at the regular monthly meeting of the Lexington and Fayette County Medical Society, April 10.

General vaccination has been ordered in Lexington. Dr. Frank O. Young, president of the board of health, has appointed Drs. W. S. Van Meter, Joseph E. Riley, Charles L. Wheeler and Thomas Lewis as assistants, each to have a section of the city to vaccinate.

The Louisville Medico-Chirurgical Society will hold a special meeting May 27, at which Dr. Hobart A. Hare, Jefferson Medical College, Philadelphia, will read a paper. Arrangements are being perfected for the Clinical Society, the Surgical Society and the regular medical profession to be present.

Resignation.—In the issue of The Journal for April 13, mention was made of the differences between the faculty of the Hospital College of Medicine and Prof. Dudley S. Reynolds, of Louisville. We have been asked to state that no dissentions exist in the faculty, although the resignation of Dr. Reynolds was requested, and he is not now a member of that body.

MARYLAND.

Vaccin physicians have been appointed as follows: Drs. George F. Chambers, Philip Briscoe, Abram J. Williams and Elsworth H. Hanman, for Colvert County.

Smallpox.—The Maryland State Board of Health will establish a quarantine against Sussex County, Del., unless the authorities of that county take prompt measures to control the epidemic prevailing there. These measures as laid down by the board will include: the isolation of those affected or exposed in a pest camp, or hospital or a place of detention under medical and police surveillance; general vaccination; disinfection of houses and destruction of articles that can not be disinfected; daily official reports to be furnished to the health officers of the adjoining counties of Maryland, and the appropriation of enough money to cover the cost of this work. If a satisfactory reply is not promptly received, notices will be sent to the railroads not to sell tickets from Sussex County to Maryland. The board is considering the propriety of proceeding against the authorities of Somerset County, the only county in Maryland that has not complied with the law requiring local health boards. The smallpox situation in the state was as follows on April 14: 1 case each in Montgomery, Garrett and Caroline counties, 5 each in Allegheny and Wicomico counties, and 2 in Dorchester County. At Seaford, Del., between March 16 and April 9, 65 cases were treated.

Baltimore.

Dr. and Mrs. William Green sailed for Italy April 13, and will spend the summer abroad.

The Alumni Association of Baltimore University School of Medicine has elected Dr. N. Van Wirth Wright, president.

Two lots have been purchased on the corner of Fayette and Calhoun streets by the Maryland Medical College, to be used for a hospital.

Instruction of Epileptics.—The superintendent of schools has drawn the attention of the school board to the necessity of making provision for the instruction of epileptics who are barred from the schools. He proposes that a school room be set apart for such children.

Prof. Alexander C. Abbott, of the University of Pennsylvania, will deliver the annual address at the meeting of the Alumni Association of the University of Maryland School of Medicine, May 2, his subject being: "Some Advances that have been Made in Preventive Medicine."

The Robert Garrett Free Hospitals for Children have issued the 1900 report. To the city institution 262 cases were admitted. During the summer cases are treated at the sanitarium at Mt. Airy. The charity was established in 1888 by Mrs. Robert Garrett, and is under charge of Dr. Walter B. Platt.

Baltimore University School of Medicine held its commencement exercises, April 11. There were thirty-one graduates, among them two women, one being the head nurse at the hospital. Thomas A. Magness, of Maryland, and Daniel A. Shay, New York, were the prize winners, and William J. Kavanaugh, of Brooklyn, valedectorian.

MICHIGAN.

Dr. Allen D. McLean, Detroit, has received an appointment as captain and assistant surgeon of volunteers.

An amendment to the medical bill has been proposed, providing that physicians who have practiced in the state for five years may be registered regardless of their qualifications.

Kalamazoo courts have issued a peremptory injunction requiring the local school authorities to admit unvaccinated to the schools, the children of a mental healer who objects to vaccination on the grounds of religious belief.

Mortality for March.—The total number of deaths reported during the month was 3488, corresponding to a death-rate of 17.2 per 1000 per annum. This is an increase of 343 over the number for the preceding month, and of 355 over the number returned for March, 1900. There were 673 deaths of infants under 1 year of age, 203 of children aged 1 to 4 years, and 1024 deaths of persons aged 65 years and over. Important causes of deaths were as follows: tuberculosis, 251; typhoid fever, 45; diphtheria, 35; scarlet fever, 44; pneumonia, 489; influenza, 320; carcinoma, 112; violence, 126. There were 3 deaths from smallpox during the month.

MINNESOTA.

Dr. William H. Rowe, St. James, has been appointed a member of the State Board of Health.

Mayor Albert A. Ames, Minneapolis, has been appointed surgeon-general of the National Guard of the state.

For refusing to be vaccinated, a Minneapolis man was fined $10, on April 2, and the fine was not remitted as in the previous cases.

Dr. Arthur B. Ancker, St. Paul, has been unanimously reelected physician of St. Paul and of Ramsey County, and superintendent of the City and County Hospital.

MISSOURI.

Barnes Medical College, St. Louis, held its annual commencement exercises, April 12.

Dr. Robert D. Haire, Clinton, fell while going down stairs, at Schell City, April 2, and sustained a comminuted fracture of the right leg.

St. Louis College of Physicians and Surgeons held its commencement exercises April 9. Prof. Albert Fulton delivered the faculty address.

A physician in charge at the Kansas City post-office is provided for by the appropriation bill just passed. The duties of the office will be light and the salary $1200 a year.

The verdict against Weltmer, the "magnetic healer" of Nevada, for $7500 damages for injuries received by Mrs. Longan, while receiving treatment by one of his operatives, has been confirmed by the circuit court.

MONTANA.

The State Board of Health, at its meeting in Helena, April 1, elected Dr. William Treacy, Helena, president, and Dr. Albert F. Longeway, Great Falls, secretary.

The Board of Medical Examiners, at its meeting April 4, examined four candidates for license to practice medicine, and elected Dr. John A. Sweet, Great Falls, president; Dr. William C. Riddell, Helena, secretary, and Dr. George H. Barbour, Helena, treasurer.

NEW JERSEY.

The Board of Health of Northampton has issued instructions commanding all persons to undergo vaccination by April 15.

Christ Hospital, Jersey City, is to receive $10,000 on the death of the daughter, and of the executor of the will of Mrs. Edna J. McPherson, widow of the senator from New Jersey.

Dr. Alexander W. Rogers, Paterson, after more than sixty years practice has decided to lighten his duties and has resigned from the Medical Board of the General Hospital, of which he had been a member since its origin.

NEW YORK.

An epidemic of smallpox is reported in an orphan asylum at Albany.

A training school for nurses has been inaugurated at the German Hospital, Buffalo.

Sanatorium for Consumptives.—The committee has reported Senator Davis's bill providing for the erection of a sanatorium for consumptives, in the Adirondacks, with the amendment that the $20,000 for furnishing must be taken out of the appropriation of $100,000.

Society for the Prevention of Consumption.—This society has been formed in Buffalo, and Dr. Benjamin Long made chairman of a committee to effect an organization. Dr. Bissell, city bacteriologist, was made secretary of the committee. It will be a society similar in scope to the Laennec Society of Baltimore.

Divided Examinations.—A bill has been introduced providing that the regents of the University of the State of New York may, in their discretion, divide the examinations required for a license to practice medicine, permitting a candidate to take the examinations in anatomy, physiology and hygiene and chemistry at the end of two years of study, instead of requiring, as by the present law, the examinations in these subjects to be taken with the others at the end of the four years' course.

New York City.

Dr. William E. Young, formerly in charge of the hospitals on Randall's Island, has been appointed superintendent of the insane pavilion at Bellevue Hospital.

New Cases of Smallpox.—Three cases were discovered in the New York Foundling Hospital, and so far this month there has been an average of 7 a day. In January the average was less than 3 cases, and in March it was 6. Since the commencement, on November 5 last, there have been altogether 590 cases, with 89 deaths, or a mortality of about 15 per cent.

Obstacle to Nurses Home.—A friend of the Presbyterian Hospital having given $300,000 for the erection of a nurses' home, steps were at once taken to carry out the provisions of the gift. But an obstacle has already been met in the shape of a temporary injunction issued on the application of a neighboring property owner. The contention is that the deed of the property contains a clause restricting the buildings to be erected to those which shall not be "noxious and offensive to the neighboring inhabitants," and some of the property owners seem to think that such a home will be offensive to the neighbors.

Burning of South Hospital.—The advantages of a properly conducted fire drill were well exemplified when the old South Hospital on Randall's Island took fire on the night of April 10. Ninety-four inmates, all boys between 6 and 14 years, were awakened by the familiar sound of the fire gong, and almost mechanically they jumped out of bed, pulled on their trousers and gathered up their other clothes as they had been taught to do. In less than two minutes they had formed in line and were out of the building. The building is nearly seventy years old. It was nearly destroyed before the arrival of the city fire apparatus.

Tenement House Legislation.—Governor Odell has signed the four tenement house bills, thus putting on a firm footing a movement which should do much toward improving the condition of the tenement dwellers in New York City. The definition of a tenement, i. e., any building in which three or more families reside, has not been changed. The greatest evils of the present system arise from the lack of proper sanitary supervision. Under the new law, it will be the duty of the Board of Health to inspect each tenement house in the city at least twice before 1902. In the past the responsibility for the enforcement of tenement house laws has been divided among the health, building, police and fire departments. The present bill creates a tenement-house commissioner, to be appointed by the mayor, and hold office at the latter's pleasure. His salary will be $7500, and he will be under bonds for $20,000 for the faithful performance of his duties. The principal reforms contemplated by this new law are furnishing more air and light to the dwellers in tenements, the doing away with dark interior rooms, securing proper sanitary appliances for each family, proper protection against fire and the enforcement of the laws in regard to such houses. A novel feature of the law is that it fixes what shall be the minimum size of rooms, i. e., they must have at least 120 square feet of floor area.

PENNSYLVANIA.

Dr. William B. Ulrich has been elected a member of the board of managers of the Chester Hospital.

Smallpox in the State.—An epidemic is now prevalent in the eastern part of Mercer County; 25 cases had occurred with one death up to April 9, all of which had developed during one week. A shotgun quarantine is being maintained until the State Board of Health takes charge of affairs. At Sandy Lane there are 20 cases of smallpox now under quarantine, with 1 death. At Steelton the disease is on the increase and 5 new cases have occurred, making a total of 40 in this locality. Under the advice of Dr. Benjamin Lee, secretary of the State Board of Health, all public meetings will be discontinued. Considerable excitement occurred at Greensburg on April 9, on the recognition of a case of smallpox on the public streets. The man was followed home and is now under quarantine. In Steelton, April 11, the health authorities, on recognizing 2 cases of smallpox, attempted to remove the patients to a hospital, where they met with resistance on the part of the father, who absolutely refused to permit the removal of the children. The Board of Health may carry the matter into the courts. At Bradford, on the same day, citizens set fire to an abandoned school-house near the city in order to prevent the health authorities from converting it into an isolation hospital for the care of smallpox.

Philadelphia.

Dr. L. Webster Fox has been appointed a member of the board of managers of the Orthopedic Hospital.

Through the will of Hannah H. Toland, $2000 has been left the Ladies' Executive Committee of the Presbyterian Hospital, and $5000 to the Germantown Hospital and Dispensary.

A portrait of the late Dr. William Pepper has been presented to the American Philosophical Society. The presentation speech was made by Dr. Horace Howard Furness on behalf of the donors.

"Hospitalism" has again shown its manner of doing business here during the past week, where it is claimed that the rivalry existing between certain of these institutions has become so great that a real competition for cases has begun. It is claimed that a children's hospital has been receiving adult accident cases, and that a protest was made by other hospitals. It is now announced that the above hospital will receive no more such adult cases.

Medical Inspection of Schools.—Drs. Charles A. E. Codman and J. H. McKee, representing the Association of School Medical Inspectors of this city recently appeared before the committee on hygiene of the board of education to consult relative to the powers of the school medical inspectors, which is at present very limited. The present regulations governing this matter are insufficient since they have not the power to exclude children suffering from certain diseases. The complaint has been made that the principals in some of the schools are not in harmony with school medical inspection and do not like to be bothered with it. The work of the inspectors is voluntary, with small hopes of receiving compensation.

GENERAL.

Plague at Ann Arbor.—The young man whom we reported last week as probably suffering with plague contracted while conducting experiments is still in an isolation hospital, doing finely, and out of danger. The disease is of the pneumonic type. There are no new cases, and as every precaution has been taken there is no fear of any.

Wyoming State Hospital.—Owing to the extensive mining interests it has been necessary for the state to add another wing to the hospital at Rock Springs, Wyo., which is now about completed. When finished there will be accommodation for about eighty patients. Building of a nurses' dormitory and other buildings has also been authorized by the legislature.

CANADA.

Dr. J. F. W. Ross, Toronto, has returned from Havana, Cuba.

Dr. John Marquis, Brantford, has been appointed surgeon to the Ontario Institute for the Blind.

Dr. James Third, professor of medicine at Queen's University, was seized with an attack of apoplexy recently and is not expected to recover.

Dr. Robert Bell has succeeded the late Dr. G. M. Dawson as head of the Canadian Geological Survey. Dr. Bell took his medical degree in 1878, at McGill.

Dr. V. H. Moore, Brockville, has been appointed a member of the corporation of the Royal College of Physicians and Surgeons, Kingston, in place of Dr. Lavell, deceased.

Nova Scotia expended, during the past year, on public charities, $132,100, an increase of $3,900 over the previous year. The excess was due to improvements at the Mount Hope Hospital Asylum.

Cigarette smoking is a prevailing habit among the schoolboys of Halifax, N. S.; inquiry has elicited the fact that 2500 have used tobacco at some time during school life, and that over 1000 use it occasionally now.

The Ontario Teachers' Association, at the recent meeting in Toronto, decided to ask the Minister of Education to substitute the teaching of physiology in the public schools of the province for hygiene, with simple lessons on food, drink, diet, clothing, light, ventilation, exercise, narcotics and stimulants.

Personals.—Dr. Adam H. Wright, professor of obstetrics in Toronto University, has about recovered from a prolonged attack of blood-poisoning received through attending a charity case at the Burnside Lying-in Hospital. He will leave shortly for the Mediterranean, accompanied by Dr. W. P. Caven, associate professor of clinical medicine, and Dr. J. T. Fotheringham, professor of therapeutics at Trinity Medical College.

Victoria General Hospital, Halifax.—A bill has been introduced into the Nova Scotia legislature to correct the evil of allowing patients to remain in the general hospital after having been cured of their maladies, this having become common practice in that institution. The bill provides that hereafter, if the patients are not removed after a reasonable time, the superintendent shall notify the clerk of the municipality or town from which a patient came, and if after such notice the patient shall not be removed, the superintendent is at liberty to place the patient in the poor-house at the cost of said municipality or town.

Concerning the Prevalence of Heart Failure.—A leading Montreal daily newspaper notices, editorially, that there have been a great number of sudden deaths throughout Canada during the past year, and that in the great majority of cases there has been no inquiry into their cause. La grippe, it is suggested, may have had something to do with this, and this disease has brought evils in its train in the way of a host of patent "cures," which, along with cures for headaches, etc., have come to be considered not above suspicion. In this connection, it is pointed out to coroners that it would be within their duty to institute closer inquiries in connection with every sudden death, for the purposes of ascertaining whether the deceased had been using these new remedies.

Concerning the Universities.—While Toronto University is anxious that it be the only provincial or state-aided university, and is declaiming against Queen's receiving any government aid, the government, at the tail-end of the session of the legislature, brings down a supplementary estimate which casts a deep gloom over the friends of Toronto University, while Queen's is jubilant over its good fortune, and will profit to the extent of $22,500 annually for the next five years. Queen's University is full of corporate life. The graduating class, which numbers seventy students, has contributed $50 each toward the founding of a fellowship which will increase the facilities for the prosecution of post-graduate work in that institution. The amounts can be paid when it suits the convenience of the subscriber, in the meantime he paying the interest alone. A Chinese laundryman of Kingston contributed $50.

The Barbers' Laws in Quebec.—The Barbers' Association has been the means of doing a great deal of good in Montreal and the province of Quebec since its formation. The jurisdiction of the Association is only in cities having a population of 5000 or over; and under the provincial law a man can not work in a factory during the day and run a barber shop at night and on Sundays. This law, as it now stands, compels barbers to take out a license or else go out of business; and the rules of the Association make it obligatory on the part of customers having any skin or scalp diseases, to have their own razors, soap, brushes, etc. Antiseptic measures are carried out in all of these barber shops; and the Association has submitted to the Board of Health of the Province, an antiseptic cabinet which has been approved of, and hot water is required by law to be constantly in all of these shops. The public in Quebec province does not run the same risk as formerly since the adoption of the provincial law.

Chinese Sanitation in Victoria, B. C.—There is a commission at present sitting in Victoria, B. C., inquiring into the question of Chinese labor; and before that body Dr. O. M. Jones, the medical health officer, appeared to give evidence as to the health and sanitation of Celestial quarters in Victoria. He states that lately there has been much improvement from new buildings, but that the Chinese neither regard nor observe the well-known laws of sanitation. He considers them a slight menace to public health, especially as there is always smallpox in the Chinese ports, although, personally, they are very careful to be vaccinated. The medical health officer has attended about five cases of leprosy. The Chinese took every precaution to conceal cases of leprosy, but there has not been recorded a distinct case of leprosy originating among children of white people. Once there was an outbreak of mumps among the clerks of the city banks, and Dr. Jones attributed it at the time to handling Chinese money, as there was then an epidemic of mumps among the Chinese. As to calling in physicians when sick, many of them, especially the wealthy class, get white physicians when sick. Dr. Jones said he would not advise medical supervision of the Chinese hospital, other than occasional inspection, which is now being carried out by the city medical health officer.

FOREIGN.

The Scalpel, edited by Dr. Thomas Dolin, Halifax, Eng., has discontinued publication on account of the incompatability of editorial work with the demands of a large practice.

League Against Syphilis.—A society has been formed at Paris, officially entitled the "League against Syphilis," with Fournier as the president. The annual dues are $2. The membership is open to physicians and other persons interested in the campaign against syphilis, including women. The board is composed of eighteen prominent physicians.

Deaths in the Profession Abroad.—O. von Weiss, privat docent of obstetrics and gynecology at Vienna, in charge of the pioneer hospital in Bosnia. . . . A. M. Berger, a prominent ophthalmologist of Munich. . . . S. Asch, of Breslau, said to be the original of L'Arronge's "Doctor Claus." . . . V. Maecherano, professor of surgery at Palermo. . . . E. Sacchi, privat docent at Geneva.

Attempted Bribery.—The mayor of Marseilles, France, and his assistant, are physicians. The latter was approached by a young doctor who offered him $200 if he would annul a certain competitive examination for the post of surgeon of the hospitals in which the young physician had been defeated. He was arrested for attempted bribery, and he has been condemned by the courts to three months' imprisonment.

Medal for Brouardel.—The students and friends of Professor Brouardel, dean of the Paris faculty of medicine and the great medico-legal authority, have opened a subscription to present him with a gold medal on the occasion of his promotion to be grand officier in the Legion of Honor. A copy of the medal will be sent to every person who subscribes $5. The medal is to be the work of Roty. Twenty-five francs and the visiting card of the subscriber should be sent to Dr. Pupin, secretary of the Faculté de Médecine, before July 1.

Progress of the Plague.—For the week ending March 30 there were in Capetown 60 fresh cases of plague and twenty-two deaths. The total number of cases since the beginning of the outbreak are 287 and the deaths 99; of the latter, 19 occurred in Europeans. On April 1 there were under observation 630 persons ill with the disease or as "suspects" or "contacts." Corpses of natives are occasionally found, which shows that cases of the disease are being concealed. In all India during the week ending March 9, there were 7879 deaths from the disease, an increase of 952 over the previous week, and the highest number ever recorded in one week. In Bombay City the deaths were 1196, in the Bombay presidency exclusive of the city, 754. In Bengal, exclusive of the metropolis, there were 4525 deaths, an increase of 459 over the previous week. In Calcutta the deaths have also increased to 557. In Mauritius, for the week ending March 28, two cases of plague both fatal were reported. Advices from New South Wales report that plague made its appearance in the large cities of Australia a little over a month ago, and while American ports are in close shipping connection with Australian ports by regular mail boats to San Francisco and Vancouver, sailing vessels to Oregon and Washington. and steamers to New York City, the period necessitated for the trip covers the quarantine time and the only danger would be from the cargoes. One case was reported there on a transport arriving from Cape Town, and a few lays later, after the cargo was removed, another appeared. There was one case in Colmslie, the quarantine station and the largest city in Queensland. Sporadic cases are reported from several towns and 1 new case in Sydney, and 2 in Perth, as late as March 15, the date of our correspondent's advice.

Mr. Arthur Coppen Jones, whose death on March 8 is announced in the *British Medical Journal,* though not a medical man, was one whose services to medical science deserve recognition here. He is best known to the profession for his researches in bacteriology, and especially in connection with the morphology of the tubercle germ, which he suggested is a fungus rather than a bacterium. He was a prominent authority in this department of microscopic botany, and the value of his work generally recognized. His death, which occurred at the early age of 35, was due to tuberculosis from which he had suffered, first as a pulmonary involvement which became quiescent, but later appeared in the form of vesical tuberculosis.

Prof. Joseph Von Fodor, whose death is announced from Hungary, was one of the most prominent sanitarians of eastern Europe. He was born July 16, 1843, studied medicine at Budapest, Vienna, and Munich, and was connected with the University of Budapest from very shortly after his graduation. His regular appointment as ordinary professor of state medicine in the University of Klausenburg, occurred in 1882, and two years later he was called to the newly-founded chair of hygiene at Budapest, where he has been an active worker ever since, leading in his special department. Besides the honors given him at home, the degree of LL.D. was conferred on him by the University of Cambridge in 1891, and he was corresponding member of many foreign scientific societies. At home he was dean of the faculty of medicine in his own university, and in 1894 rector. He was ministerial councillor of the Hungarian government and one of the presidents of the Superior Health Council of Hungary. Among his numerous writings, many having received prizes and been recognized otherwise, his chief work was "Hygienic Researches on the Air, Soil and Water," in two volumes, published in 1881 and 1882. He was also the author of a text-book on hygiene for schools, which appeared in 1887. As a teacher, he was one of the most successful. His personality was said to be most amiable, and, as the *British Medical Journal* says, in his premature death at the early age of 58, the world has suffered a real loss.

LONDON LETTER.

The Microbe of Rheumatic Fever.

At the Chelsea Clinical Society, Drs. F. G. Poynton and A. Paine read a paper on the "Infectivity of Acute Rheumatism," with especial reference to chronic types of the disease. They said that acute rheumatism is a definite disease with definite peculiarities. Therefore, if one microbe is constantly present which, when isolated, produces identical lesions in animals, probably it is specific. From 14 cases of rheumatic fever they isolated a diplococcus which grew in liquid media in streptococcal chains and on solid media in staphylococcal masses. Triboulet before and Wasserman and Malkoff during the time the authors were working had also isolated a diplococcus from cases of acute rheumatism. The authors isolated the organism three times from the blood of patients suffering from rheumatic pericarditis, twice from the throat, four times from the pericardium, twice from the urine, three times from the cardiac valves, and once from a rheumatic nodule. In the rabbit, by inoculation, they had produced lesions identical with those found in man.

Myasthenia Gravis.

At the Edinburgh Medico-Chirurgical Society, Dr. E. Bramwell has pointed out the necessity of every practitioner being acquainted with this recently recognized disease, since it is often mistaken for hysteria, is often fatal, and in some cases can be recovered from, under appropriate treatment. He described the case of an unmarried woman, aged 23, who had previously enjoyed good health. Ten weeks before he saw her, without apparent cause, she gradually developed difficulty in speaking, swallowing and chewing, and weakness of the muscles of the eye, palate, neck and arms. In the morning she was usually free from symptoms, but as the day went on weakness in the muscles developed. The use of any of these muscles induced temporary paresis and a feeling of fatigue. There was no atrophy, and the deep reflexes were brisk. Absence of weakness in the legs and of ptosis was an unusual feature in the case. In making a diagnosis, attention should be paid to the following points: 1, the presence of muscular weakness often slight and unassociated with atrophy; 2, the facility with which the muscles become exhausted by voluntary effort (myasthenic state) and by faradism (myasthenic reaction); 3, absence of sensory symptoms apart from the fatigue caused by exhaustion, of sphincter trouble, and of mental disturbance. The prognosis is uncertain. Most cases are characterized by temporary improvements and relapses. Of 60 collected cases, 23 were fatal. In the majority death was due to dyspnea. Since exertion and excitement increase the symptoms they must as far as possible be avoided. All solid food should be minced in order to spare the muscles of mastication and to avoid the risk of choking.

The Company of Barbers and the Royal College of Surgeons.

With mediæval ceremony the Honorary Freedom of the Barbers' Company has been conferred on Sir William MacCormac. The quaint charge was read in the presence of the assembly, the members of the court and recipient standing, while those below the ranks of an assistant and the visitors remained seated. A banquet followed. This is a very ancient institution among the barbers. As far back as 1388 the Master certified that it was the practice once a year to assemble in feast and that there was an ordinance that none of the brotherhood should pay more than 14 pence each toward the feast. Sir William MacCormac expressed his appreciation for the distinction conferred on him by the venerable company. The Guild of Barbers is of such ancient foundation that its earliest records can not be traced. In the thirteenth century, before its final development into a trade guild it was partly religious in character and partly social. The barbers used to assist the monks to perform operations. In 1462, in the reign of Edward IV, they obtained a charter of incorporation and became a city company, "the better to protect the King's lieges from going the way of all flesh through the ignorance and negligence of various unskillful barbers and other practitioners of surgery." From remote time there was also a "Surgeons' Guild," small in number and poor, and chiefly consisting of military surgeons. They become merged into the Barbers Company in 1540 and remained united until they separated in 1745 and were constituted a Company of Surgeons, a movement attended by many quarrels. From this body was evolved the present College of Surgeons, incorporated in 1800. The election of the president of the College of Surgeons to the honorary freedom of the Barbers' Company constitutes the first official link between the two societies since their separation.

The Nature of Yaws.

At the Polyclinic, Mr. Morgan Finucane, assistant medical officer of Fiji, recently read a very remarkable paper on yaws. He maintained, in the most uncompromising manner, that the disease is syphilis. This view has long been held by Mr. Jonathan Hutchinson, in opposition to all the colonial surgeons who have observed the disease. Mr. Hutchinson had not till quite recently himself observed a single case of what is asserted to be yaws. He based his views on the published descriptions and portraits of the disease, which show complete similarity to syphilis—a primary stage of a local lesion which can originate in contagion, a secondary general eruption, tertiary manifestations of bone disease, and amenability to mercury and iodid of potassium. The frambesial or mulberry-like type of eruption Mr. Hutchinson attributes to the influence of race and climate. Yaws is simply the parent form of syphilis, which was introduced into Europe at the time of Columbus. Mr. Hutchinson's arguments, though enforced with his usual dialectic skill and command of facts and his unrivalled knowledge of syphilis, have always failed to convince the colonial surgeons who have observed yaws in its native haunts. His great argument is: If yaws is distinct, how is it that a chronic disease which is so widely scattered over different parts of the world never comes to Europe? Because when it does it is always recognized as syphilis. Hence the great importance of Mr. Finucane's view, formed after an intimate acquaintance with Fijian yaws for seven years, that the disease is "modified syphilis allied to though not identical with the syphilis of Europe." He thinks that the syphilitic poison was introduced into the Fijian race—probably from Tonga—by early voyagers to the South Sea in the latter part of the eighteenth century, and there took on an epidemic character. In Scotland a disease named sibbens or sivvens, which was epidemic as late as the last century, is recognized by many authorities as syphilis. Coko or Fijian yaws is epidemic in Fiji and scarcely any native escapes the disease. It is usually contracted in infancy—between the ages of 6 months and 2 years—by actual contact with yaws-sores or it is possibly conveyed by flies. The commonest sites are the angles of the mouth and nose and the anal and vaginal margins. A few large isolated sores of a papular character like a mulberry appear. On mucous membranes the sore in no way differs from a syphilitic condyloma. Successive crops of minute roseolar papules, soon becoming vesicular, are formed. If the child survives he lapses into an anemic stage, pigmented scars being left. A stage of health then follows. From the age of 8 or 9 to 30 there is a "late stage" of the disease. Circular punched-out ulcers are formed, especially on the legs. The general health becomes again affected, and anemia sets in. Periosteal nodes on the legs, ribs, forearms, face and forehead are common. In severe cases the whole shaft of a long bone is involved in periostitis, producing deformities which are common among the Fijians. They have a special name for the deformity: "*A tamata selevan*" from the shape of the bone resembling the curve of a cutlass. It is interesting, in this connection, that the French speak of the sabre-shaped tibia of syphilis. Serpiginous ulceration of the mucous membranes may ocur, producing hideous deformity. There may be deep ulcerations on the body and limbs, rhagades of the hands and feet, and palmar and plantar psoriasis. Abortion is very common in Fijian women and is principally due to yaws. Extensive ulceration of the nose and throat, with bone destruction, may take place. When the Indian coolie or Europeans contract yaws the disease is not distinguishable from syphilis. Evidences of hereditary syphilis are rare, perhaps because severely syphilized children are still-born. But typical cases showing Hutchinson's teeth, Parrot's nodes, etc., are occasionally seen. Syphilis and yaws appear to be mutually protective against one another. Mr. Finucane has never been able to obtain a history of previous syphilis in an Indian who contracted yaws, nor of one who contracted yaws suffering subsequently from syphilis. Syphilis as seen in Europeans is extremely common in the Indian coolies of Fiji. Fijian plantation laborers frequently have intercourse with Indian coolie women, among whom syphilis is common, yet Mr. Finucane has never seen or heard of a primary sore in a Fijian. He suggested that as the colonial office is now sending out malaria commissions it should not overlook the subject of yaws, and that a commission of skilled dermatologists should be sent out to settle the question of the nature of the disease and the means of mitigating it.

Association News.

Hotel Accommodation at the St. Paul Meeting.—St. Paul will be able to care for the visiting physicians at the meeting of the AMERICAN MEDICAL ASSOCIATION without trouble, and we can assure all who attend comfortable and convenient quarters. The headquarters of the ASSOCIATION will be at the Ryan Hotel, a large and excellently equipped hostelry, with well-lighted and roomy apartments, modern plumbing, tasteful furnishings, and a cuisine which will satisfy the taste of the most exacting. Spacious quarters have been set aside for the officers of the ASSOCIATION, and the beautiful lobby will prove a favorite meeting place for the members. In the adjoining building, the Ryan Annex, space has been provided for the bureau of registration, exhibits, and assembly rooms for the pathological and other Sections. Within half a block is the Metropolitan Opera House, where the general meetings will be held, and the assembly rooms of the various sections will be within a radius of four blocks of the hotel. Street-cars on all lines pass the door at intervals of from two to five minutes, by means of which all parts of the city will be accessible. The Aberdeen Hotel is a beautiful hostelry of modern construction, situated in the residence district, three-quarters of a mile from the Ryan, and easily accessible by street-cars which run at intervals of three minutes. It is beautifully furnished, the rooms large and commodious and the cuisine unsurpassed by any hotel in the country. The Aberdeen is especially desirable for those members who expect to bring ladies with them, as it is free from the objection of the noise and dust of the center of the city, and is convenient to the homes which will be thrown open by the hospitality of the ladies of St. Paul. It is expected that this hotel will be largely occupied by those members who will bring their families with them. The Merchants' Hotel is situated within two blocks of the Ryan and will accommodate several hundred guests. It has been refitted and refurnished throughout and is in every way desirable. It is famous for its hospitality and will be found to be comfortable and attractive in every respect. The Windsor and the Metropolitan hotels are large modern ones, conducted either on the American or European plan, and will accommodate about 400 guests each. They are situated in the business center of the city, convenient to all assembly halls and street-cars. The rooms are comfortable, beautifully furnished and their table service is unsurpassed. As auxiliary to the above list are the Clarendon, Colonnade and the Astoria hotels, which are comfortable, and in every way desirable, although the rates are somewhat less than at the larger hotels. It is expected that many members will take quarters by preference at these hotels, as they are much quieter and more free from the turmoil of convention time than other more crowded hostelries. In addition, the Minnesota Club and other similar institutions will throw open their doors for the accommodation of guests. At all the hotels many reservations have already been made and the choice rooms are being picked out by those who write early for accommodations. No favoritism is being shown, and the old rule, "first come, first served," will be observed in the reservation of rooms. In regard to rates at hotels, an arrangement has been made that in no case shall the charges be more than the customary and usual rates. It is to be observed, however, that as it will be necessary to accommodate a large number of people, it will be impossible to give to one person quarters that usually accommodate two people without charging him the rate for two. Any one desiring a room which has two beds will be required to pay for two persons, but can, without extra charge, share his quarters with a friend and thus lessen the expense. It is expected that there will be at St. Paul more people than can be accommodated at the hotels without overcrowding, and the Committee has arranged that many private houses will be opened to receive such guests. At the depot and hotels members of the Committee will be stationed with a corps of messenger boys and when comfortable quarters can not otherwise be secured, the guest will be sent in company with a messenger to comfortable rooms in the residence portion of the city. By this arrangement no one will have to wait for accommodations, but every guest who can not be accommodated at the hotels will be at once shown to pleasant and comfortable rooms in the various apartment houses and homes of the city. It is desired by the Committee that such of the members as intend to come to St. Paul shall write without delay to the Chairman of the Committee on Hotels, Dr. Arthur Sweeney, stating the number of persons in the party and the character of accommodation desired. By this method definite reservations of rooms can be made, the details of price and location settled, and on the arrival the physician thus provided for can be shown to his room without delay. In addition to the above-named hotels St. Paul's sister city, Minneapolis, taking thirty to forty minutes by electric cars, has many magnificent hotels.—J. FULTON, Chairman of Committee of Arrangements.

The St. Paul Meeting.—The Committee of Arrangements reports that it has arranged for the entertainment of the ASSOCIATION members in a manner that will be pleasant to all. On Tuesday evening the customary section banquets will take place, and these will be as attractive as possible. On Wednesday evening there will be an out-door promenade concert on Summit Avenue, one of the most beautiful residence streets in the world, and which will be quite generally illuminated. A number of private receptions will be given and the entertainment as a whole will be a very attractive one. Later in the same evening a "smoker" will be given at the Ryan Hotel. On Thursday evening a ball and promenade will be given on the grounds of the University of Minnesota, with dancing in the Armory. The grounds of the university will be illuminated and various buildings be thrown open. Special cars will be provided for taking the guests from St. Paul to Minneapolis and return. On Friday evening the special train for the Yellowstone Park will leave. There is a large general committee of the ladies of St. Paul who have arranged for a number of entertainments and excursions to take place during the mornings and afternoons of the meeting, but the details have not yet been definitely decided. The weather in St. Paul is always fine during the first week in June, and there is every reason to believe that everything possible will be done for the convenience and pleasure of all who attend the meeting.

To Commemorate Invention of Ophthalmoscope.—At the last meeting of the ophthalmic Section of the American Medical Association, the undersigned were appointed a committee to arrange exercises, etc., at the coming meeting in St. Paul, to commemorate the fiftieth anniversary of the invention of the ophthalmoscope. The Committee is preparing an historical exhibit of ophthalmoscopes and is endeavoring to secure such older models as they can borrow. Due credit will be given.—Harry Friedenwald, M.D., 1029 Madison avenue, Baltimore; Casey A. Wood, M.D., Chicago.

Election of Delegates.—The Medical Society of Northampton County, Pa., at its annual meeting, elected the following delegates to the American Medical Association: Dr. Albert A. Seem, Bangor; Dr. John C. Keeler, Windgap; Dr. William H. Dudley, Easton; Dr. Henry D. Michler, Easton; Dr. E. Wallace Richards, Easton; Dr. Samuel S. Appel, Easton; Dr. Charles McIntire, Easton, and Dr. William P. Walker, South Bethlehem.

Minnesota State Medical Society.—Through an oversight the Minnesota State Medical Society was omitted from the list of affiliated societies published last week.

Section Programs for the St. Paul Meeting.

Section on Obstetrics and Diseases of Women.

Progress in Gynecology and Obstetrics. Henry P. Newman, Chicago.

Indication for Vagino-abdominal Hysterectomy. Rufus B. Hall, Cincinnati, Ohio.

Electrothermic Hemostasis in Abdominal and Pelvic Surgery. A. J. Downes, Philadelphia.

The Advantages and Disadvantages of Drainage After Abdominal Surgery. Hunter Robb, Cleveland, Ohio.

The Uses and Abuses of Morphin in Abdominal Surgery. L. H. Dunning, Indianapolis, Ind.

Bladder and Ureteral Surgery. Howard Kelly, Baltimore, Md.

The Relative Merits of the Different Methods of Uretro-ureteral Anastomosis. J. Wesley Bovée, Washington, D. C.

Results, Immediate and Remote, of Conservative Surgery. A. Goldspohn, Chicago.

Fibroid. Thomas S. Cullen, Baltimore, Md.

The Complication and Degeneration of Fibroid Tumors, as Bearing on Treatment of These Growths. Chas. P. Noble, Philadelphia.

How Shall We Deal with Uterine Myomata. E. E. Montgomery, Philadelphia.

Contributing Factors in the Production of Peritonitis. J. D. Clark, Philadelphia.

Enterostomy in the Treatment of Diffused Peritonitis. W. E. B. Davis, Birmingham, Ala.

A Case of Streptococcus Infection Following Labor; Operation; Recovery. W. H. Humiston, Cleveland, Ohio.

Carcinoma of the Uterus. J. M. Baldy, Philadelphia.

The Accidents and Complications of Pelvic Surgery and Their Treatment. John B. Deaver, Philadelphia.

Treatment of Posterior Displacement of the Uterus. Augustin H. Goelet, New York City.

Surgical Treatment of Retroversion of the Uterus. Franklin H. Martin, Chicago.

A New Operation for Retrodisplacement of the Uterus. Emil Ries, Chicago.

Atresia Hymenalis. O. Thienhaus, Milwaukee, Wis.

Causes of the Increasing Sterility of American Women. George J. Engelmann, Boston.

Treatment of Incomplete and Inevitable Abortion. J. Clarence Webster, Chicago.

Position of Patient During Delivery. W. D. Porter, Cincinnati, Ohio.

Asepsis in Midwifery. E. Gustave Zinke, Cincinnati, Ohio.

The Indication and Contraindications for the Use of the Curette in Obstetric Practice. Henry D. Fry, Washington, D. C.

Puerperal Asepsis. John F. Moran, Washington, D. C.

Obstetrics as a Specialty. Joseph Price, Philadelphia.

The Advantage of Drill upon the Manikin. Eliza H. Root, Chicago.

Cesarean Section as a Method of Treatment for Placenta Previa. W. J. Gillette, Toledo, Ohio.

Pregnancy Following Ventro-suspension of the Uterus, Reuben Peterson, Chicago.

Puerperal Eclampsia; Its Etiology and Treatment. T. J. Beattie, Kansas City, Mo.

Section on Nervous and Mental Diseases.

Titles for additional papers sufficient to complete the program up to thirty, according to the Constitution of the Association, with short abstracts, should be sent to the Secretary before May 1, 1901.

This program is not in the order in which it will finally appear, although the endeavor will be to place the papers in the order of reception as far as consistent with the proper arrangement of the list.

Any members desiring to attend the banquet of this Section, on the second evening of the meeting, will confer a favor by reporting early to the Secretary, 1407 Locust St., Philadelphia.

Chairman's Address. H. A. Tomlinson, St. Peter, Minn.

SYMPOSIUM ON SYPHILIS OF THE BRAIN.

(This symposium is arranged with especial reference to the needs of the general practitioner.)

Nervous Manifestations. Hugh T. Patrick, Chicago.

Mental Manifestations. Richary Dewey, Wauwatosa, Wis.

General Pathology of Nervous Syphilis. F. W. Langdon, Cincinnati, Ohio.

The Specific and Non-specific Lesions Resulting from Syphilis, and Their Influence upon Diagnosis, Prognosis and Treatment. J. T. Eskridge, Denver, Colo.

Etiology of Paretic Dementia. Frank P. Norbury, Jacksonville, Ill.

Symptomatology of Cerebral Hemorrhage. F. Savary Pearce, Philadelphia.

Treatment of Cerebral Hemorrhage. D. R. Brower, Chicago.

The Virile or Genesiac Reflex as Pudic Nerve Innervation Phenomena. C. H. Hughes, St. Louis, Mo.

A Case of Alexia Caused by a Bullet Wound with Successful Location and Removal of the Latter. G. W. McCaskey, Fort Wayne, Ind.

What Can Be Done for the Epileptic in a Medical Way. R. H. Porter, Chicago.

The Treatment of the Acute Psychoses in Private Practice. C. Eugene Riggs, St. Paul, Minn.

Title to be announced. A. J. Pressey, Cleveland, Ohio.

Title to be announced. Curran Pope, Louisville, Ky.

Treatment of Neurasthenia. J. G. Biller, Cherokee, Iowa.

Title to be announced. Henry Waldo Coe, Portland, Ore.

Three Cases of Paralysis of the Serratus Magnus (Posterior Thoracic Nerve)—Alar Scapula. Augustus A. Eshner, Philadelphia.

Mirror Writing and Inverted Vision. Albert B. Hale and Sidney Kuh, Chicago.

Fear as an Element of Nervous Diseases and Its Treatment. John Punton, Kansas City, Mo.

A Case of Localized Amnesia with Remarks Thereon. Edward E. Mayer, Pittsburg, Pa.

Incipient Amyotrophic Latent Sclerosis with Recovery. Persistent Brachial Neuralgia from the Hypodermic Needle. Leo. M. Crafts, Minneapolis, Minn.

Injuries, Feigned and Real, with Their Differentiation and Medicolegal Aspect. Lambert Ott, Philadelphia.

Space Neuroses. John E. Purdon, Turlock, Cal.

Section on Stomatology.

Chairman's Address. R. R. Andrews, Cambridge, Mass.

SYMPOSIUM ON STATE BOARDS OF DENTAL EXAMINERS IN THEIR RELATION TO THE PROFESSION AND THE COLLEGES.

Methods of Appointment: 1. By State Universities—New York. 2. By State Boards of State Officials ex-officio, Nebraska. 3. By Governors on Recommendation of the Profession. William Carr, New York City.

Revenue for conducting the Work of the Boards of Examiners: 1. By Taxation of the People. 2. By Fees from Examination of Candidates. 3. By Taxation of the Profession. George L. Parmele, Hartford, Conn., and V. E. Turner, Raleigh, N. C.

The Dental College Standard: 1. Is it What it Should Be? 2. If Not, What Improvements Should Be Made? 3. How May the Requirements be Improved? Charles Chittenden, Madison, Wis.

Licensing: 1. By Examination. 2. By Diploma. J. A. Libby, Pittsburg, Pa.

SYMPOSIUM ON DEGENERACY OF THE PULP.

Preliminary Work. Eugene S. Talbot, Chicago.

Literature of the Pulp. Vida A. Latham, Rogers Park, Ill.

Cutting, Staining and Mounting. Martha Anderson, Moline, Ill.

Local Anesthesia. A. H. Peck, Chicago.

A Remedy for Certain Injustice Both to the Insured and the Company. W. E. Walker, Pass Christian, Miss.

Periods of Stress and their Dental Marks. Jas. G. Kiernan, Chicago.

Surgical Treatment of Cleft Palate. G. V. I. Brown, Milwaukee, Wis.

Infectious Diseases. Alice Steeves, Chicago.

Simple Gingivitis. Geo. T. Carpenter, Chicago.

Military Dental Practice, Its Modifications and Limitations. Henry D. Hatch, New York City.

The Tongue as a Breeding Place for Bacteria. M. H. Fletcher, Cincinnati, Ohio.

Pathology of the Alveolar Process. Eugene S. Talbot, Chicago.

Tuberculosis of the Alveolar Process and Surrounding Tissues and a Few Methods of Differential Diagnosis. V. A. Gudex, Milwaukee, Wis.

Married.

Nelson H. Henry, M.D., to Mrs. Sarah Sloan, both of New York City.

Wade Thrasher, M.D., to Miss Olive Schmuck, both of Cincinnati, April 3.

Edward H. Abbott, M.D., to Miss Ethelyn Wells, both of Elgin, Ill., April 3.

P. C. Barnard, M.D., to Miss Aggie Leslie, both of Indianapolis, Ind., April 5.

George W. Harrington, M.D., to Miss Lizzie Williams, both of Hazleton, Pa., April 9.

H. E. McLennan, M.D., Bay Mills, Mich., to Miss Camilla Knaggs, Bay City, Mich., April 3.

John B. Reynolds, M.D., St. Joseph, Mo. to Miss Lula Moore, Platte City, Neb., April 10.

Joseph S. Demaree, M.D., Mackville, Ky., to Miss Eva Hatchett, Springfield, Ky., April 2.

Edward Vernon Silver, M.D., to Miss Bessie M. Larson, both of Salt Lake City, Utah, April 3.

Martin A. Robinson, M.D., Victor, Colo., to Miss Aurora Catlett Horn, Hernando, Miss., April 18.

John Herbert Claiborne, Jr., M.D., to Miss Marie Louise Claiborne, both of New York City, at New Orleans, April 16.

George G. Wenrich, M.D., Grand View Sanatorium, Wernersville, Pa., to Miss Anna May Coar, New York City, March 6.

Deaths and Obituaries.

William Jay Youmans, M.D., New York University, 1865, died at his home in Mt. Vernon, N. Y., April 10, aged 62 years. After instruction under Professor Huxley he returned from Europe and finally settled in Minnesota, where he passed three years in the practice of medicine. After coming to New York he devoted most of his life to the *Popular Science Monthly*, of which, after the death of his brother, Dr. E. L. Youmans, he became chief editor. His preferences were always in the direction of chemistry and natural science.

John H. Grove, M.D., University of Pennsylvania, Philadelphia, 1849, died April 6, in Philadelphia, where for many years he had been connected with St. Agnes and St. Mary's hospitals. He was made a brevet lieutenant colonel for distinguished service in the Union military hospitals during the Civil War. He was a member of the AMERICAN MEDICAL ASSOCIATION, Association of Military Surgeons of the United States, and of local medical societies.

Albert Edgar Summers, M.D., Jefferson Medical College, Philadelphia, 1848, died at Charleston, W. Va., April 1, from pneumonia, after a short illness, aged 57. He was a private pupil of Dr. Goss, had charge of a Union army hospital at Charleston during the Civil War, and had been both speaker of the House of Delegates and president of the Senate of the state.

John Ferguson, M.D., College of Physicians and Surgeons, New York, 1855, who had practiced in Manchester, N. H., for forty years, with the exception of the period of the Civil War, when he was surgeon-major of the Tenth New Hampshire Volunteers, died at his home in Manchester, April 6, from paresis, after an illness of two years, aged 71.

William F. McClelland, M.D., Jefferson Medical College, Philadelphia, 1859, who had lived in Denver since 1862, and who was a pioneer in the study of the climatic influence of Colorado on pulmonary disease, died at his home in Denver, April 12, aged 80.

James C. Larsh, M.D., University of Maryland, Baltimore, 1842, died in Baltimore, April 3, from paralysis, aged 80. For forty years he practiced at Reisterstown, retiring and moving to Baltimore about eighteen years ago.

John Ambrose McKinley, M.D., Northwestern University Medical School, Chicago, 1894, died from tuberculosis, at El Paso, Texas, where he had gone in search of health, March 8, after an illness of one year.

George L. Gurney, M.D., Medical School of Maine, Brunswick, 1879, died at his home in St. Paul, Minn., April 6, aged 47 years.

Merritt H. Chandler, M.D., University of Vermont, Burlington, 1869, died at his home in Woodstock, Vt., April 6, after an illness of three months, from Bright's disease, aged 56.

John R. Kirkland, M.D., University of Pennsylvania, Philadelphia, 1859, died from angina pectoris after an illness of five days, at his residence in Meridian, Miss., April 5, aged 66.

Columbus C. Wright, M.D., Ohio Medical University, Columbus, 1897, died April 6, at his home in Columbus, from pulmonary tuberculosis, after a long illness, aged 24.

Charles H. Dana, M.D., Jefferson Medical College, Philadelphia, 1851, of Tunkhannock, Pa., died after a long invalidism from paralysis, at Bartow, Fla., March 25.

Wilson A. Smith, M.D., University of Cincinnati, Ohio, 1888, died at his home, in Middlebourne, W. Va., March 23, from consumption, after a long illness.

T. S. Stewart, M.D., retired, one of the oldest and most esteemed citizens of Marietta, Ga., died at that place, April 4, after a short illness, aged 84.

W. B. Harlan, M.D., University of Louisville, 1853, died at his home near Danville, Ky., April 6, after an illness of several months, aged 72.

Louis T. Dawson, M.D., University of Tennessee, Nashville, 1886, died at his home in Cub Run, Ky., March 29, from typhoid fever, aged 36.

George Perry Jones, M.D., University of Maryland, Baltimore, 1865, died from apoplexy at his home in East Newmarket, Md., April 2, aged 55.

Albert E. Kelley, M.D., New York University, 1891, a practitioner of South Butler, N. Y., died at Newark, N. Y., April 2, after a short illness.

Vincenzo Centaro, M.D., University of Naples, Italy, 1880, who had practiced medicine in Chicago for about eight years, died April 15, from congestion of the brain.

Henry H. De Beck, M.D., University of Vermont, Burlington, 1881, died after a long illness at his home in Winn, Maine, March 23.

Colon C. Watson, M.D., Rush Medical College, 1878, died at his home in Crystal Lake, Ill., March 20, aged 45.

William P. Smith, M.D., Rush Medical College, Chicago, died April 5, after an illness of five years, aged 50.

Miscellany.

Report of Special Commission on the Plague in San Francisco.

No.	Name.	Age, Sex and Color.	Place of Death.	Date of Death, 1900.
1	Wing Chut King. . . .	41, M., Mong.	1001 Dupont.	March 6.
2	Chu Gan.	22, " "	723 Sacramento. . . .	" 15.
3	Ng Ach Ging.	37, " "	905 Dupont.	" 17.
4	Lee Sun King	47, " "	Oneida Place.	" 18.
5	Law An	38, " "	St Louis Alley. . .	April 24.
6	Lim Fa Muey	16, F., "	739 Clay Street. . .	May 11.
7	Chu Sam.	38, M., "	717 Jackson. .	" 11.
8	Chin Moon.	16, F., "	730½ Commercial*. .	" 13.
9	Herr Woon Jock. . . .	53, M., "	740 Pacific.	" 14.
10	Dang Hong	40, " "	706 Pacific.	" 29.
11	Chen Kney Kim . . .	49, " "	819 Clay.	June 2.
12	Jay Man Tong.	60, " "	759 Clay.	" 9.
13	Lee Wing Tong	40, " "	767 Clay*.	July 6.
14	William Murphy. . . .	34, " White	427 Dupont*.	August 11.
15	Ham Tan.	29, " Mong.	900 Dupont.	" 15.
16	Lea Do Hen.	50, " "	710½ Dupont.	October 5.
17	Chun Yen	37, " "	767 Clay	" 10.
18	Taik Dong Leong . . .	39, " "	705 Clay	" 14.
19	Young Moon Li Chee .	30, F., "	802 Dupont. . . .	" 31.
20	Young Wah Noui . . .	9, " "	802 Dupont	November 1.
21	Anne Roede	28, " White	Pacific Hospital*. .	" 3.
22	Lee Ho	30, M., Mong.	844 Washington. . .	December 7.
23	Chun Wey Lung.	60, " "	720 Jackson (1901). .	January 6.
24	Leam Wing Low. . . .	59, " "	833½ Clay . .	" 15.
25	Angela Colombo. . .	" White	5 Lafayette Place* .	" 15.
	(Following observed by Commission.)			
26	Chun Ah Chou.	44, M., Mong.	814 Washington. . .	February 5.
27	Lum Hong Yuen. . . .	37, " "	28 Ross Alley . . .	" 6.
28	Wong Chi Lin	50, " "	15½ Waverly	" 7.
29	Tom Shom . .	51, " "	814 Washington . .	" 10.
30	Ng Ah Back . . .	45, " "	St Louis Alley. . .	" 11.
31	Foong Ah Feng .	12, F., "	747 Sacramento St .	" 12.

To Surgeon-General Wyman, Marine-Hospital Bureau,
Department of the Treasury, Washington, D. C.

Sir:—The special Commission appointed by the Honorable, the Secretary of the Treasury, for the purpose of ascertaining the existence or non-existence of bubonic plague in San Francisco, or other ports or places in the state of California under instructions furnished by the Surgeon-General of the United States Marine-Hospital Service begs leave to submit the following report:

In accordance with instructions received, the members of the Commission proceeded as early as possible to San Francisco, one of them (Dr. Barker) arriving on Friday, Jan. 25, 1901, the other two (Dr. Flexner and Dr. Novy) on Sunday, January 27.

The first formal meeting of the Commission was held at the Occidental Hotel shortly after the arrival of all the members. At this meeting it was decided, in accordance with your instructions, to call and pay our respects to the Honorable, the Governor of the state, to place ourselves in communication with the local authorities in order to obtain facilities for the examination of the sick and dead in Chinatown, or elsewhere should suspected cases arise, and to arrange for a laboratory in which pathological and bacteriological examinations could be undertaken.

Owing to the miscarriage of a letter sent to the Commission by the Honorable, the Governor of the State, the call of your Commissioners upon him was delayed until Saturday, February 16. On this date, however, they had the privilege of paying their respects to the Governor and of informing him of their orders. The Governor received your Commissioners most courteously and stated that the authorities in California desired to facilitate by every means in their power the investigation concerned.

A call was also made upon the mayor of the city of San Francisco and upon the President of the City Board of Health, both of whom offered to aid in any way possible to them the work of your Commissioners. The City Board of Health supplied the Commission with a map of Chinatown, on which were charted the location of cases which the Board had examined and regarded as plague.

During the first fifteen days of our visit, a bureau was opened in the Occidental Hotel; the Commission met at 11 o'clock daily, and it was announced in the press that its members would be glad to confer with any one who had information to give with regard to the existence or non-existence of plague in the city. In addition, letters were sent to a number of physicians in town requesting an interview. The majority of those written to responded; opinions were divided, some of the physicians being confident that plague existed, others being sure that the disease was not here. The establishment of this bureau proved to be of great service, not so much in affording us information about plague, as in putting us into relation with the medical and business interests of the city. Through it, a plan of work became easy to formulate; through it we learned how to gain access to the sick and dead Chinese and how to proceed without exciting the opposition or suspicion of those among whom we were to work.

The representatives of the principal commercial interests of the city of San Francisco, including the Merchants Association, the Manufacturers and Producers Association, the Board of Trade, the Pacific Coast Jobbers and Manufacturers Association, the Chamber of Commerce, the Pacific Mail Steamship Company, and the Southern Pacific Railway called upon the Commission, welcomed them to California and offered their aid. Through the courtesy of Colonel Mendel, Room 161 of the City Hall, previously used as a license office, was put at the disposal of the Commission. It was fitted out as a laboratory, the outfit being purchased new in San Francisco.

INSPECTIONS OF THE CHINESE SICK AND DEAD.

The attorney of the Chinese Consolidated Benevolent Associations (ordinarily known as the Chinese Six Companies) advised the Chinese to co-operate with the Commission. As a result, proclamations were issued ordering the Chinese to report all cases of sickness and death, no matter what the cause, to the offices of the Chinese Six Companies in order that daily inspections might be made. Mr. Wong Chong, the secretary of the Six Companies, accompanied a member of the Commission (Barker) daily to each house whence a report had been made, aided in finding the cases, acted as interpreter, and assisted in obtaining the necessary histories. It is believed by the members of the Commission that the Chinese Six Companies acted in good faith and that they made every attempt to give access to the sick. Certain cases of sickness, it is true, were not reported and were not known of until the dead bodies were found, but this, it is believed, was due to negligence on the part of the Chinese concerned rather than to any attempt at concealment.

The daily inspections of the sick and dead permitted of observations relative to the mode of life of the people in the fourteen blocks of San Francisco which makes up "Chinatown." These observations were extended by special trips of inspection under the guidance of officers of the city detective force and by numerous independent trips of inspection made by your Commissioners.

The dwellings of the poorer classes of Chinese were found to be here, as they seem to be everywhere, shockingly unsanitary. In places there is marked overcrowding; the rooms are small, they are often entirely devoid of light or means of ventilation, and nearly always insufficiently lighted and ventilated; many of them are filthy; some of them, especially those situated in basements, are damp and emit a foul stench. These faults in sanitation are not confined to the tenement houses of the Chinese; on the contrary, in the rear of, or over or under some of the more pretentious business buildings are to be found sleeping and living apartments which are most objectionable from a sanitary point of view.

The Chinese in San Francisco are, however, in many respects much better off than are their countrymen in great native centers like Canton or even than those in a city like Hongkong. There is almost an entire absence of the utter destitution met with among so many of the Chinese in Asia; the Chinese in San Francisco are, on the whole, very well fed, for wages are high and food is abundant and cheap. They are also well clothed as a rule and particular emphasis is to be laid upon the fact that the Chinese here wear shoes, stockings and trousers, since it is believed by many that the bare legs and feet of the Chinese in Hongkong and Canton had much to do with the frequency of infection with plague in those places.

A large percetage of the Chinese in San Francisco, it is said, smoke opium. There are a number of Chinese proctitutes, but inspection of the quarters occupied by the latter would indicate that the rooms in which they live are on the whole more wholesome as regads air space, light, ventilation and cleanliness than those of the other inhabitants of the district.

On Wednesday, Feb. 6, 1901, systematic daily rounds of visits were made by one of the Commissioners in company with Mr. Wong Chung to the rooms of the sick as reported each day to the offices of the Chinese Six Companies. Rapid clinical examinations were made and notes kept of the results.

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* Particular places of death of following numbers was as follows: No. 8, Pacific Hospital, Stockton and Chestnut Streets; No. 13, City and County Hospital; No. 14, City and County Hospital; No. 21, Children's Hospital, 3700 California Street. No. 25, City and County Hospital.

A number of the cases met with were obviously instances of advanced tuberculosis; others were affected with various chronic diseases, such cases being of no interest for the investigation was made only once. When patients were found who presented symptoms which were suggestive of plague a careful examination was made; in doubtful cases, the first visit was followed by others and the progress of the illness carefully watched. These regular visits of daily inspection were maintained until Feb. 16, 1901, during which period a sufficient number of instances had been observed to permit your Commissioners to conclude beyond possible doubt that cases of bubonic plague were occurring among the Chinese.

Inspections of the dead in Chinatown were made also daily by the same member of the Commission, beginning Feb. 5, 1901. Access to the dead was gained in two ways. In the first place the assistant city physician, Dr. F. P. Wilson, makes the rounds of the undertaking establishments in Chinatown each forenoon. He inspects the bodies of the dead and where necessary advises a pathological and bacteriological examination by Dr. Kellogg, the bacteriologist of the City Board of Health. Permission was obtained from these gentlemen for the making of simultaneous and independent inspections and of pathological and bacteriological examinations by the Commission.

A second mode of access to the dead was that afforded by the reports made by the Chinese directly to the offices of the Six Companies. By this mode, it was in some instances possible to learn of the death of individuals and to make inspections of bodies before the city officials were informed of them.

(To be continued.)

Societies.

COMING MEETINGS.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 23-26, 1901.
Texas State Medical Association, Galveston, April 23, 1901.
American Association of Genito-Urinary Surgeons, Old Point Comfort, April 30, 1901.
Association of American Physicians, Washington, D. C., April 30, 1901.
American Gastro-Enterological Association, Washington, D. C., May 1, 1901.
Kansas Medical Society, Pittsburg, May 1-3, 1901.
American Surgical Association, Baltimore, Md., May 7-9, 1901.
American Therapeutic Society, Washington, D. C., May 7-9, 1901.
Nebraska State Medical Society, Lincoln, May 7-9, 1901.
Oklahoma Territory Medical Association, Oklahoma City, May 8, 1901.
Mississippi State Medical Association, Jackson, May 8, 1901.
Washington State Medical Society, Seattle, May 8-9, 1901.
Ohio State Medical Society, Cincinnati, May 8-10, 1901.
Arkansas Medical Society, Hot Springs, May 14-16, 1901.
Medical Association of Montana, Great Falls, May 15-16, 1901.
Michigan State Medical Society, Battle Creek, May 15-16, 1901.
Iowa State Medical Society, Davenport, May 15, 1901.
Indiana State Medical Society, South Bend, May 15-17, 1901.
New Hampshire Medical Society, Concord, May 16-17, 1901.
Medical Association of Missouri, Jefferson City, May 21-23, 1901.
Illinois State Medical Society, Peoria, May 21-23, 1901.
Medical Society of North Carolina, Durham, May 21-23, 1901.
Connecticut Medical Society, Hartford, May 22-23, 1901.
Kentucky State Medical Society, Louisville, May 22-24, 1901.
Medical Society of West Virginia, Grafton, May 22-24, 1901.
American Laryngological, Rhinological and Otological Society, New York City, May 23-25, 1901.
American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.
American Gynecological Association, Chicago, May 28, 1901.
American Climatological Association, Niagara Falls, N. Y., May 30, 1901.

German Dermatological Congress.—This Congress will meet in Breslau, May 28-30.

Gloucester (Mass.) Medical Club.—At the annual meeting of this Club, April 4, Dr. Edward S. Eveleth was elected president and Dr. Percy C. Procter, secretary and treasurer.

Pennsylvania Society for the Prevention of Tuberculosis.—At the annual meeting of this Society, held on April 10, in Philadelphia, Dr. Guy Hinsdale was elected president, and Dr. Alex. Heron Davisson, secretary.

Paducah (Ky.) Medical and Surgical Society.—This Society held its meeting for the annual election of officers, April 3, and elected Dr. Charles H. Brothers, president; Dr. Delia Caldwell, secretary, and Dr. Horace T. Rivers, treasurer.

Everett (Mass.) Medical Society.—The annual meeting of this Society was held March 27, and Dr. E. Cazneau Newton elected president; Dr. George E. Whitehill, vice president, and Dr. Belle D. Curtis, secretary and treasurer.

San Diego County (Cal.) Medical Society.—At the annual meeting of this Society, April 5, Dr. George Cleary was elected president; Dr. Eugene St. Clair Beadles, vice- president, and Dr. Thomas L. Magee, secretary and treasurer.

Upper Des Moines Medical Association.—At the semi-annual meeting of this Association, at Estherville, March 28, Dr. Edmund D. Putnam, Lake Park, was elected secretary, vice Dr. Charles S. Shultz, of the same place, resigned.

American Climatological Association.—The eighteenth annual meeting of this Association will be held in Niagara Falls, N. Y., May 30, 31 and June 1, under the presidency of Dr. Robert H. Babcock, Chicago.

Louisiana State Medical Society.—The twenty-Second annual meeting of this Society will be held at the medical department of Tulane University, New Orleans, April 18 to 20, president Frederick W. Parham in the chair.

Medical Society of the State of West Virginia.—The thirty-fourth annual meeting of this Society will be held in Grafton, May 22 to 24. Dr. G. A. Aschman, Wheeling, secretary, requests that titles of papers be send to him before April 30.

Nashville (Tenn.) Academy of Medicine.—The annual meeting of the Academy took place April 2, and the following officers were elected: Dr. William D. Haggard, president; Dr. Carl C. Warden, vice president, and Dr. Deering J. Roberts, secretary.

Kansas Medical Society.—The thirty-fifth annual meeting of this Society will be held at Pittsburg, May 1 to 3, under the presidency of Dr. J. W. Porter, of that city. The physicians of the city will tender a banquet to the Society, May 3, at the close of the evening session.

Clinton County (Iowa) Medical Society.—At the quarterly meeting of this Society, held at Clinton, April 2, delegates were appointed to the state medical society, and Dr. F. A. Hohenschuh, Clinton, was elected secretary to succeed Dr. David T. Nicoll, removed to Clarence.

West Tennessee Medical and Surgical Association.—This association will hold its tenth annual session at Jackson, Tenn., May 2 and 3, instead of the usual time, the last of May. The change is made on account of the nearness of the time of the meeting of the American Medical Association.

Whatcom County (Wash.) Medical Association.—The physicians of the county met at Whatcom, March 30, and organized this association, with the following officers: Dr. Hays A. Compton, Fairhaven, president; Dr. Euclid Vanzandt, New Whatcom, vice-president, and Dr. Joseph F. Cross, New Whatcom, treasurer.

McLean County (Ill.) Medical Society.—At the annual meeting of this Society, at Bloomington, April 4, the following officers were re-elected. Dr. Charles E. Chapin, Bloomington, president; Dr. William R. Shinn, Chenoa, vice-president; Dr. Franklin C. Vandervort, Bloomington, secretary, and Dr. Ernest Reedy, treasurer.

International Association of Railway Surgeons of the United States, Canada and Mexico.—The executive board of this Association has decided that the next annual convention shall be held in Milwaukee, Wis., June 10 to 12. The local committee of arrangements consists of Drs. Harry A. Sifton, Solon Marks and William Mackie.

Cuyahoga County (Ohio) Medical Society.—The annual meeting of this Society occurred at Cleveland, April 4. The election of officers resulted in the choice of Dr. Carl A. Hamann, president; Drs. Charles C. Stuart and Leroy S. Chadwick, vice-presidents; Dr. Frederick C. Herrick, secretary, and Dr. Charles G. Foote, treasurer, all of Cleveland.

Canadian Medical Association.—The annual meeting of the Canadian Medical Association will be held in Winnipeg, Manitoba, August 28-31, under the presidency of Dr. Henry H. Chown, of that city. Special arrangements have been secured from the Canadian Pacific Railway for trips there and to other parts of the northwest as well as to the Pacific Coast.

Howard County (Ind.) Medical Society.—This Society, at its annual meeting, held in Kokomo, April 4, elected Dr. S. Roscoe Chancellor, Kokomo, president; Dr. Daniel C. Peters, Greentown, vice-president; Dr. William Harrison, Kokomo, secretary, and Dr. J. McLeon Moulder, Kokomo, treasurer. Delegates to the state society and the American Medical Association were also elected.

Medical Society of the State of North Carolina.—The annual meeting of this Society will be held in Durham, May

21 to 23, under the presidency of Dr. Julian M. Baker, Tarboro. Dr. Earle Grady, Tryon, will deliver the oration, and Dr. Robert S. Primrose, Newbern, the essay. The annual discussion will be led by Dr. David A. Stanton, High Point. Dr. Albert G. Carr, Durham, is chairman of the committee of arrangements.

Southern Idaho Medical Association.—The quarterly meeting of this body was held in Boise, April 4. The retiring president, Dr. Robert L. Nourse, Hailey, addressed the Society on "How Can We Best Secure the Enforcement of the Medical Laws of Idaho?" Dr. Lucien P. McCalla, Boise, was elected president; Dr. Ed. E. Maxey, Caldwell, vice-president, and Dr. Hubert A. Castle, Pocatello, secretary.

Tennessee State Medical Society.—At the sixty-eighth annual meeting of this Society, at Nashville, April 10, the following officers were elected: Dr. Deering J. Roberts, Nashville, president; Drs. James B. Murfree, Jr., Murfreesboro, L. A. Yarbrough, Covington, and William B. St. John, Bristol, vice-presidents; Dr. A. Bennett Cooke, Nashville, secretary, and Dr. William C. Bilbro, Murfreesboro, treasurer. Memphis was selected as the next place of meeting.

Medical Association of the District of Columbia.—The annual meeting of this Association was held in Washington, April 2. The following officers were elected: Dr. H. L. E. Johnson, president; Drs. George C. Ober and William H. Fox, vice-presidents; Dr. Monte Griffith, secretary, and Dr. Frank Leech, treasurer, all of Washington. Delegates were also elected to the American Medical Association, and Dr. G. Wythe Cooke was designated to confer with the Association on state organization.

Hornellsville (N.Y.) Medical and Surgical Association.—The annual meeting and dinner of this Association occurred at the Steuben Sanatorium, April 1. Dr. Charles O. Green was elected president; Dr. Charles M. Brasted, vice-president, and Dr. Ray G. Lawrence, secretary and treasurer. After the president's address, Dr. William S. Ely, Rochester, read a paper entitled "Some of the Certainties and Uncertainties in Medicine," and Dr. Floyd S. Crego, Buffalo, discussed "Some of the Improvements in Medicine and Their Relation to Nervous Diseases."

New London County (Conn.) Medical Society.—The one hundred and tenth annual meeting of this Society was held at Norwich, April 4. The Society adopted a resolution that it supports and urges the passage, with such modifications as may seem best, of the bill known as "An act to establish a state hospital in some suitable location for the treatment of incipient pulmonary tuberculosis and making an appropriation therefor. It also elected delegates to the American Medical Association and the following officers: Dr. Charles B. Graves, New London, president; Dr. Newton P. Smith, Norwich, vice-president, and Dr. Carlisle F. Farrin, New London, clerk.

Colorado Medical Library Association.—The eighth annual meeting of this Society was held at Denver, March 20. The secretary, Dr. Carroll E. Edson, reported that 770 volumes had been added to the library. and that donations had been received from the Denver and Arapahoe Medical Society, of $150; and from Dr. John Boice, of 200 bound volumes of periodicals. The president, Dr. Henry Sewall, spoke on the needs of the library. Dr. Leonard Freeman was appointed to consult with the authorities of the County Hospital regarding some arrangements whereby the resources of the Hospital for medical literature might be made available for the Association, and whether a fee on attendance on clinics could be collected from medical students, said fee to be applied to the purchase of medical journals. The election of officers resulted as follows: Dr. Charles D. Spivak, president; Dr. Edward Jackson, secretary and treasurer, and C. R. Dudley, librarian.

Association of American Medical Colleges.—The next regular meeting of this Association will be held at the Hotel Ryan, St. Paul, Minn., June 3, under the presidency of Dr. Albert R. Baker, Cleveland, Ohio. It will consist of an educational and a business session. The educational session will be opened at 2 p. m., by the president's address, followed by several papers of medical pedagogic interest. To this session all persons interested in medical education are invited. The representatives and associates of the Association of Southern Medical Colleges have received a special invitation. The members of the Confederation of State Examining and Licensing Boards are also invited. There will also be an exhibition of work done in medical colleges. At 8 p. m., the business session will be held and the amendments to the Constitution, proposed by several colleges, considered. The report of the judicial council, the election of members and the election of officers for the succeeding year will close the program.

CINCINNATI ACADEMY OF MEDICINE.

Meeting held March 25.

President Dr. N. P. Dandridge in the chair.

A Case of Cerebral Abscess.

Dr. E. W. Mitchell reported that on January 27 he was called to see a well-developed and well-nourished boy of 13, who, three years ago, had suffered from a fracture of the right frontal bone which had been trephined and from which he had made an uneventful recovery. He had had no headaches since, was intelligent, and there could be said to have been no brain or mental symptoms up to the time of this last sickness. For two or three days previous to the time Dr. Mitchell saw him, he had complained of a cold, but this did not prevent him from taking part in the games and exercises of his friends. On the morning of the 27th, he complained of headache and pain at the root of the nose. He gradually grew worse during the day, developing fever and soreness of the throat. Dr. Mitchell saw him at 10 p. m., and found him unconscious, temperature 103, pulse 96, full and strong, respirations 30, pupils slightly contracted but reacting normally to light, heart normal, lungs normal except for some coarse mucous râles, pharynx congested and tonsils swollen; his bowels had moved twice during the day and he had vomited several times. He could be aroused slightly, responding to questions only in monosyllables, and again relapsing into stupor. The next morning he responded somewhat more readily to direct questions; temperature was 101, pulse 92; he had had a spasm at midnight and another at 5 a. m., the convulsions being general but most marked on the right side. After the second convulsion he had roused up sufficiently to answer questions. Kernig's sign was not satisfactorily obtained on account of voluntary resistance. He had no convulsions during that day, but remained in a slight stupor; toward evening a slight squint of the left eye was noted. On the morning of the third day slight opisthotonos was first noted; temperature 101, pulse 100; he had tossed restlessly in bed all night, but had no convulsions; some twitching of the right hand, arm and hand and great hyperesthesia were present; he did not answer questions, took nourishment well, and there was no vomiting. Kernig's sign was *present*. A positive diagnosis of meningitis was now made, but before operation could be performed, he was seized suddenly with a convulsion and died.

Autopsy.—This showed a depressed scar on the right frontal bone, corresponding to a depression on the inner table, quite healthy in appearance. The inner surface of bone was so smooth and so nearly normal in appearance that only by close inspection could the site of the trephining be discovered. By holding the bone between the eye and the light the outlines of the button could be nicely seen. From the lower margin of the button a very fine line extended downward for about three-fourths of an inch, probably indicating the line of the old fracture. The dura was normal except for greatly distended blood-vessels. The pia over the right frontal and anterior half of the parietal lobe was covered by a layer of greenish-yellow lymph. In the superior frontal lobe was an abscess about as large as a navy bean and about an inch below the surface. The tissues between the abscess and the surface were softened and broken down. The central abscess cavity had the appearance of having a lining membrane. It would seem probable that at the time of the injury a small abscess had formed here, had become encysted, and had for three years produced no symptoms. Finally exposure and exertion had broken the limiting membrane, causing infection of the surrounding brain tissue and perforation to the surface where the fatal meningitis was excited.

Scarlatina with Meningeal Symptoms.

Dr. W. D. Haines reported this case. A child, 2 years old, well developed and well nourished, had had an attack of pneumonia complicated with acute purulent otitis media, in March, 1900, and a slight purulent discharge from the right ear had continued up to the present time. The child was taken sick about 11 a. m. January 27. with vomiting. He saw her first about 2 p. m., and found her face flushed, breathing hurried and of a peculiar intermitting type, pulse rapid, temperature 103, fauces injected, the tongue red and dry and a glandular enlargement of the neck. She was continually putting her fingers in her right ear. The fever remained in the vicinity of 103 or 104 for the next four days, but no rash appeared. She slept and ate fairly well. At about this time a few deeply injected macules about the size of a millet seed dotted the skin covering the anterior aspect of the knee-joint. The urine was loaded with albumin and phosphates and grave uremic symptoms began to make their appearance (third day). On the morning of the fifth day a faint rash appeared. The duration of the rash was one day and followed by extensive desquamation, considering the very slight manifestation of the rash. With the desquamation the temperature began to subside, then started to rise rapidly in the next twenty-four hours, reaching 106. This was undoubtedly due to an acute follicular tonsillitis. Respirations now increased to 40 a minute and the pulse to 160. On the seventh day ptosis of the right eye appeared, with contraction of the pupil; on the left side was noted a divergent squint. There was slight tendency to opisthotonos. Large rose-colored spots appeared on the skin covering the face, hands, neck and anterior surface of the body, especially marked and persistent on the skin of the neck. Slight pressure on the skin at any point caused a hyperemic blush which remained several minutes. The child was restless, crying much of the time, sleeping but little and taking but small quantities of nourishment; the urine, however, became more abundant and less albuminous. For a week the hyperemic patches continued to fade and to reappear. The discharge from the ear, which had ceased with the onset of the attack, reappeared, and *immediate improvement was manifested*: the paralysis began clearing, the temperature fell, respiration and pulse approached the normal, the urine cleared, and all that now remains are the stains of the maculopapular eruption.

Mastoid Disease with Unusual Symptoms.

Dr. J. A. Thompson reported the case of a girl of 13 who had been in failing health for a number of days. For several weeks she had been under the care of her physician, during which time there had been slight fever, and the case was regarded as one of atypical typhoid. The only localizing symptom during that time was an earache increasing in intensity, with the pain much worse at night. The pain was in the mastoid process. A slight chronic eczema behind the ear made it difficult to say when redness and swelling due to mastoid inflammation first appeared. On November 21, 1900, he had been called and found marked swelling and tenderness over the mastoid and pain radiating over the whole temporal and parietal region. There was no evidence of any disease in the tympanic cavity. The drum was not even reddened. On November 26 there was pus in the attic and a paracentesis was made, evacuating a small amount. The paracentesis wound healed rapidly and the discharge from the middle ear ceased in a few days. There was at this time a decrease in the pain and fever. A few days later there was a spontaneous perforation of the drum in the posterior inferior quadrant, following but a few hours of pain; this was followed by a very profuse purulent discharge. The swelling and tenderness over the mastoid promptly subsided, and on December 114 she was able to come to the office for treatment. The perforation closed once but opened after about twenty-four hours. On December 20 her symptoms became rapidly worse, especially the pain, swelling and tenderness over the mastoid. On December 28 the mastoid was opened and found filled with pus, granulation tissue and polypi. This was entirely removed and the opening continued until the mastoid antrum was opened, thus securing good drainage from the middle ear. On removing the dressings (fourth day) the drum was found to have healed. The patient was discharged from the hospital at the end of two weeks, and healing was complete on the forty-eighth day. Hearing distance for the watch in diseased ear is 12/24. The uncommon features were grave disease in the mastoid cells weeks before the tympanic cavity was involved, improvement in the general and local symptoms while extensive destruction of the bone was in progress, and death of the bone wholly out of proportion to the general or local symptoms, with a rapid healing of the wound without any of the complications and delays that usually attend extensive operations on necrotic bone.

Alopecia Areata and Nasal Epithelioma.

Dr. M. L. Heidingsfeld presented two dermatologic cases, one of alopecia areata in a young boy, the other a case of epithelioma of the nose in a man about 60 years of age, which had been apparently cured by local applications of arsenious acid in the form of a paste. The diagnosis of this case had been confirmed by microscopic examination.

Strangulated Umbilical Hernia; Operation; Recovery.

Dr. A. W. Johnstone reported the case of a large fleshy woman, 64 years of age, with hernia apparently strangulated one day before operation was instituted. The omentum and intestines were found gangrenous. All the gangrenous portions were removed and the fresh ends approximated by means of the Murphy button. Recovery was uneventful. He reported the case on account of the long time elapsing before the passing of the button; it had been inserted on Dec. 27, 1900, and was passed March 11.

Fibroid of the Uterus.

Dr. J. A. Johnston reported on Miss F., aged 42, who had pelvic trouble for two years. Examination revealed a tumor filling the pelvis, and the uterus could be outlined above the symphysis pubis on the anterior superior surface of the growth; the cervix uteri was posterior and against the symphysis pubis. On Feb. 13, 1901, the abdomen was opened and the uterus and growth found as above detailed. It was impossible to lift the growth out of the pelvis, or indeed move it until it had been completely cut away from its attachments—the cervix was left. The symptoms of this case, the essayist said, were not severe, and therefore it did not demand immediate operation on that account alone; but the form, position, and relation of the growth to the uterus, ureters, rectum, and bladder did not augur well for the future. The mass was 4 inches in the anteroposterior diameter, 4½ in the transverse, and 5½ long; the diameters of the pelvis at the superior inlet, conjugate, oblique and transverse, being respectively 4¼, 5 and 5½ inches, would not allow much more room for the fibroid to expand. There was the ever-present danger of pressure upon the ureters and attendant damage to the kidneys. Furthermore, a few months' additional growth might have wedged it so tightly in the pelvis as to greatly increase the risk of operation.

Acute Osteomyelitis of the Hip.

Dr. A. H. Freiberg reported on a male, aged 22, of good family history and splendid physique, who was taken ill suddenly, about two months before first seen by the essayist. The onset of the disease was very sudden, with severe chill and great pain in the left groin and hip, high fever and great prostration. This was soon followed by marked swelling and pronounced sepsis. The nature of the disease being recognized, a long incision was made over the upper posterior third of the thigh, and a great quantity of pus was evacuated, followed in a short time by spontaneous dislocation of the hip. About one week after this the essayist was asked to see the patient. He was found extremely septic and debilitated, with fever and a pulse of 118. There was typical dislocation onto the dorsum ilii, the left foot being supported on the right. The whole limb was swollen and the knee somewhat painful to pressure. Attempt at reduction under chloroform anesthesia failed, the patient taking the anesthetic badly, so provision was hastily made for more free drainage. The limb had been shifted to a better position by the manipulation, the foot now looking directly forward. An extension was applied but had to be removed on account of an effusion into the right knee. This subsided gradually and the patient began slowly to improve. Denuded bone could, however, be felt on probing the sinus at the posterior aspect of the hip. About two months later the hip was opened by the Langenbeck incision and the head of the femur removed, the patient then making an uneventful recovery. Examination of the bone showed superficial destruction of the bone at the uppermost part of the neck. At the juncture of the head and neck the cartilage had been lifted off by the suppurative process. The ligamentum teres had been destroyed. Small lamellar sequestra were found free in the joint.

Typhoid Fever; Pregnancy; Miscarriage at Seven and a Half Months; Typhoid in the Infant; Death; Autopsy.

DR. MARK A. BROWN reported this case in a woman of 19, well developed and well nourished, who first came under observation on Nov. 23, 1899. Her principal complaints were fever and headache. She stated that as near as she could remember her illness began on November 14, with headache, pains in various parts of the body, loss of appetite and general weakness. Previous to her illness she had nursed her sister, who had passed through a six weeks' course of typhoid. She had menstruated last on April 8, 1899. Examination of the heart and lungs was negative. The abdomen showed a pregnancy at about the seventh month, and the spleen was enlarged to percussion. Examination of the urine was entirely negative—diazo reaction not made. Temperature was 103.2, pulse 92, respirations 20. The Widal reaction was obtained in twenty minutes. On the next day she was delivered of a small female child. Her average temperature on that date was 103. November 27, the Widal reaction was obtained in ten minutes, on December 1 in ten, and on December 8 convalescence seemed to be established, but the Widal reaction was complete when the slide was placed under the microscope. The temperature now began to ascend and, on December 25, there was a note that she had passed through a typical relapse of typhoid, with spots and enlarged spleen. She was discharged on January 25, well.

Infant.—Its temperature was 101 when born, and rose steadily until above 103, remaining in this neighborhood about two weeks, then falling gradually to the normal in the same stepladder manner that is so frequently seen in the adult. Two days after the normal temperature had been reached, the child, who had been getting weaker and weaker with each succeeding day, died, apparently of inanition. On December 2, the ninth day of its birth, the Widal reaction was made on the infant's blood, and partial reaction secured in thirty minutes, complete in forty-five. The serum reaction was made every two or three days on the baby's blood, and always with a positive result and in almost every case under the time limit. The note on December 9 states: "Widal made on blood obtained from the child gave complete clumping and agglutination in *ten minutes.*" The child did not seem to be especially discommoded by its illness, taking nourishment—not the breast, no attempt of course being made at that—very willingly. No spots developed; the spleen was palpable, the stools slightly yellowish and loose. There was no tympanites nor did the child appear to be in any particular pain at any time.

Autopsy.—The heart and lungs were normal. The spleen was considerably enlarged and very soft. Enlarged mesenteric glands were also found. Involving a large part of the ileum, particularly at the lower part, were found healed ulcers, presenting the "shaven-beard appearance" so common in adults. Indeed, the whole condition differed in no way from a typhoid of an adult in a similar stage of the disease, while the course of the disease seemed to bear out the statement that typhoid in the young runs a very mild course. I believe that if this had been a full-time child it would have survived; for a time it looked as if it were going to live in spite of the obstacles that were thrown in its way.

Osteomyelitis of Vertebrae.

DR. CHARLES E. CALDWELL reported a case of osteomyelitis of the vertebræ, with interesting pressure symptoms. He had made a laminectomy but without any marked improvement. On autopsy a small abscess cavity was found within half an inch of his incision. The specimen was presented.

Tumor of the Sclera.

DR. JOHN W. MURPHY presented a young negro girl, with a small tumor distinctly under the conjunctivæ and apparently in connection with the sclera, situated midway between the sclerocorneal junction and the inner canthus of the left eye. Ophthalmoscopic examination was entirely negative. He was unable to state the exact nature of the growth.

JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

Meeting held April 1.

Dr. Wm. H. Welch, President, in the chair.

Hemorrhage in Operation for Chronic Jaundice.

DR. WILLIAM OSLER related several cases in which operation was performed for the removal of gall-stones producing jaundice in which severe and even fatal hemorrhage had followed. There is usually a retardation of coagulation time of blood, this requiring fourteen or fifteen minutes instead of about 3½, the normal time. The calcium chlorid lessens the coagulation time which may fall to normal. Subcutaneous injections of gelatin have the same effect. In two cases, however, the coagulation time was normal; there was severe hemorrhage.

Typhoid Spine.

DR. OSLER also exhibited a robust, healthy looking man, with a good color, who had been admitted November 6, on the twelfth day of an attack of typhoid fever, and had been discharged January 12, his illness having lasted fifty-seven days. He has recently returned, complaining of great stiffness in the back, extreme pain in attempting to sit up, tenderness in the sacrolumbar region, and a markedly nervous state. His general condition is good, there is no swelling, no signs of spondylitis, no change in reflexes, no paralysis. All the patients get well. The markedly hysterical features lead to the belief that in the great majority it is a pure neurosis. This man had had the Paquelin applied every two days, and wet packs.

Intestinal Dystrypsia: Classification and Pathogenesis.

DR. J. C. HEMMETER proposes this name as a substitute for intestinal dyspepsia, trypsin being the most important enzyme in intestinal digestion. For these cases, which are due to disturbances in the function of the liver or biliary apparatus, he suggests the term "hepatic dystrypsia," and for pancreatic disturbances, "pancreatic dystrypsia." The functions of the intestine are secretion, absorption and peristalsis. Many dystrypsias affect two, sometimes three, of these. Dr. H. suggests the following classification of dystrypsias: 1, those due to pathologic-anatomic alterations; 2, absence or deficiency of the intestinal digestive secretions; 3, those due to qualitative or quantitative irregularities in the diet; 4, those due to abnormal bacterial activity; 5, those due to abnormal gastric chemistry; 6, those of nervous origin; 7, those caused by abnormal substances or irritants reaching the intestine from the blood; 8, those due to the action of intestinal parasites (exclusive of bacteria), worms; 9, those due to hyperperistalsis.

Gastric dyspepsia occurring in a dilated or prolapsed stomach is frequently mistaken for intestinal indigestion.

Is there any way in which we can study the alterations of the intestinal secretions? There are but two ways in which progress can be hoped for: 1, duodenal test-meal analysis; 2, examination of the stools. The first seems at present to be confronted with insurmountable difficulties, but it is a method to which we are surely coming, for it constitutes the only reliable means for obtaining information regarding the chemic processes of the duodenum. An apparatus was shown designed for the intubation of the duodenum. It consisted of a flexible rubber tube through which a spiral wire is passed in order to prevent kinking. The second method requires careful quantitative analysis of the stools, after weighed amounts of proteids, carbohydrates and fats have been ingested, not only for the purpose of determining the residual undigested amount of each of these substances, but also for determining the amount of proteolytic, amylolytic, and eventually also of adipolytic ferments present in the feces. To accomplish this Dr. H. exhibited his stool sieve, designed to be attached to the tap so as to allow water to flow through the contents, removing offensive material, but retaining in the sediment everything essential for examination. This obviates one of the greatest drawbacks to such analyses.

With reference to the agency of bacteria in digestion, Dr. H. says the evidence so far obtained suggests that the presence of micro-organisms is essential to the most perfect functioning of the digestive process in the gastro-intestinal canal. In the treatment, however, of that dystrypsia due to bacterial activity, he does not place too much dependence on the so-called intestinal antiseptics. He gets along without them in the great majority of cases, and has seen very evil results follow the use of irritative antiseptics. He gives the utmost care to the diet, that it be easily digestible, thoroughly sterilized and moderate in quantity. Next to diet, the most effective means for combatting bacterial activity and autointoxication is lavage of the stomach and colon. Generally nothing is needed, but sterile water. If there is no HCl in the stomach, it is administered.

Dr. Wm. Osler prefers the term "intestinal indigestion" to "dystrypsia," and with reference to the agency of bacteria in causing intestinal indigestion pointed out that this latter condition is not found in typhoid fever, although bacteria are abundant.

Fetal Transmission of Typhoid.

Dr. Frank W. Lynch reported two cases of typhoid fever in pregnancy, with interruption of pregnancy in both cases. In the first case, from the four-months' fetus, aborted during the second febrile week, he cultivated the typhoid organism, from the fetal blood and organs. The same organism was also grown from the uterine lochia, but not from the maternal blood. The placenta showed numerous microscopic hemorrhages. Sections from the placenta and fetal organs were negative for bacilli. The Widal with the mother's blood was positive (1 to 50); the child's blood was absolutely negative (1 to 10). In the second case, the child, premature at the thirty-sixth week, was born on the fortieth febrile day. It lived for seventy days, dying finally of inanition. Although it presented an unusual skin eruption at birth, rather strongly suggestive of rose spots, placental transmission could not be proven. Cultures from the blood, taken at autopsy, developed the colon bacillus. The Widal from the child was negative in 1 to 10 dilution on the first, thirty-sixth and seventieth days. The mother's blood gave a Widal positive in dilutions of 1 to 50. Cultures from the placenta were sterile for two days. The placenta was normal, both macroscopically and microscopically. In the 1079 cases of typhoid to January 1, in the Johns Hopkins Hospital, there have been 289 in the female, and but 5 cases of typhoid during pregnancy. This is a percentage of 1.7, which is somewhat smaller than that given by Goltdammer and Martinet. From the literature Dr. Lynch collected sixteen cases of placental transmission of typhoid, and about the same number of cases where such transmission could not be proven. The absence of the Widal reaction, in the case where placental transmission was proven, is a unique observation, as there are no observations as to this point.

CHICAGO NEUROLOGICAL SOCIETY.

Dr. Hugh T. Patrick, president.

Raynaud's Disease.

Dr. H. N. Moyer presented a case of this affection, the third he had seen; they all presented marked differences. The patient was 13 years of age, of Norwegian descent, tall, with light complexion, mentally bright, very fond of reading, of an emotional nature and had had several hysterical attacks, and nearly all the ordinary children's diseases. The family history was not specially significant. Her mother was of nervous temperament. She has four brothers living and in good health. It is stated that her grandmother had a finger that used to turn white for a short time. When first seen by Dr. Moyer, Feb. 9, 1901, several fingers were white and painful, but one more so than the others. While under observation, the fingers became red, again turned white and then assumed a bluish tint, changing color constantly. The hands were cold but sensation was not impaired. The patient stated that she first felt numbness and tingling in the left little finger and it turned white, that occurring about five days before she was seen. The heart, lungs, and nervous system, with the exception of the local symptoms in the hands, were quite normal. The girl was seen in consultation with Dr. Zeltner, whose first impression was that the finger had been frozen, but the rapid alterations of color soon showed that this explanation was incorrect. When the finger first turned white, she had no pain, but at the time she came under observation there were distinct painful paroxysms of about one-half hour's duration, which came on three or four times a day. When first seen the fingers of each hand, three in number, were distinctly cyanotic, the little finger of the left hand more than the others.

At present, the middle finger of the left hand and the fourth of the right are most affected. The tips of the fingers are very tender to the touch. In the center of the pulp of the middle finger, the skin appears to be raised and white, with a reddish zone around it, much resembling a small blister. Apparently, gangrene has set in in this finger. There has been no change in the nails and they continue to grow. The patient has been treated with galvanism every day. The hands are immersed in water, connected with a positive pole and the negative is applied at the nape of the neck. Several times a day the patient is instructed to raise the hands for a few minutes. A thick cotton dressing is applied to the hands when she goes out of doors, and she has the additional protection of a muff. The paroxysms of pain were best relieved by a 10 per cent. solution of menthol in alcohol. Chloroform liniment was applied, but with no effect. The patient claims that she gets more relief from applications of very cold water; warm increases the pain. Internally she was given the suprarenal gland, with no effect; later, quinin and strychnin with marked improvement.

Optic Atrophy in a Child.

Dr. Hugh T. Patrick presented a patient with this affection —a boy of 12 years, first seen Sept. 18, 1900, through the kindness of Dr. F. A. Phillips. The father had died insane, probably of general paresis. The first child was 15 years of age and perfectly well; the second pregnancy terminated with a miscarriage at about four months, and the patient was born at full term about two years later. The following child was born three years after the patient and presented some evidence of inherited lues, while the last child was afflicted with various skin diseases until several years old. Soon after the patient's birth he developed snuffles, which continued for several years. The mother stated that he had never been strong on his legs, and walked "as if his shoe hurt him." Otherwise his development was normal with the exception of occasional nocturnal enuresis which still continued, the urine sometimes slowly dribbling away. For the last three years he had been subject to attacks of vomiting which always occurred in the morning and were followed by sleep, after which he seemed perfectly well. During the last year these attacks had begun with a pain in the head, and had been more frequent, and after an attack the scalp would be tender for a day or two. They were apparently migrainous in character. Vision had begun to fail only a few months before, and at the time of examination, as determined by Dr. Phillips, was R 15/200, L 20/200, and there was simply atrophy of both optic nerves. The right pupil was slightly larger than the left; both were somewhat irregular and responded to accommodation, but not to light. Sensation and muscular power were normal, there was very slight incoordination of both upper and lower extremities and slight intention tremor of the hands. The deep reflexes were normal, and there was no ulnar analgesia, but pressure on the ulnar nerve seemed to be rather less painful than normal. The teeth, while not the typical Hutchinson type, were considered to indicate congenital syphilis. Since September, the boy had become totally blind, the other symptoms remaining about the same. On account of the brisk knee-jerks, the diagnosis of precocious tabes would be rather venturesome, but the case was considered to be of that type; that is, to be classed with the late degenerative diseases caused by syphilis, such as tabes and general paresis.

Antrum Infection and Sigmoid Thrombosis.

Dr. Bayard Holmes presented the clinical history and postmortem specimens of a case of antrum infection and sigmoid thrombosis without present middle-ear disease, presenting the symptoms of facial neuralgia and none of the ordinary symptoms of disease in the petrosa; retropharyngeal gravity abscess, general sinus thrombosis without much impairment of cerebration. The case was reported owing to the difficulty presented in the diagnosis. There were few psychic symptoms and the various neuralgias and peripheral nerve lesions gave no very definite pointings for cerebral localization. A rough synopsis of the case was given as follows: Rigor and high temperature, beginning without apparent cause, neuralgia of the right fifth nerve for ten days, typhoid or septic condition resembling sinus thrombosis for six weeks, abscess appearing suddenly in the posterior right pharynx, six weeks later discharge from the right ear, paralysis of the right leg, death, autopsy, antrum and general mastoid disease, sigmoid and general sinus thrombosis, extending into the cortex of the left hemisphere.

The patient was a physician in active practice, the father of a large family of perfectly healthy children. He had himself suffered from no disease except malaria and gout. He came in one day after light exercise out doors complaining of a chilly sensation, had a terrible rigor which lasted over an hour, followed by a temperature of 104 and pain through the back and legs. Headache was not a symptom at the beginning, but appeared at the end of forty-eight hours. Four or five days afterward a distinct neuralgia manifested itself over the distribution of the right fifth nerve. A suppurative pharyngitis made its appearance, was opened and drained thoroughly with continued irrigation. The pain and tenderness over the whole right side of the head continued to be excruciating. A most careful search was made for a local source of infection in the antrum of Highmore and in the mastoid sinuses. A diagnosis seemed to rest between a neuralgia with malaria and an osteomyelitis of uncertain origin at the base of the skull, possibly from one of the sinuses of the nose. The case, while slowly improving, continued with various fluctuations. There was no adenitis over the mastoids or about the neck.

Each of the nostrils, orbits and ears was separately and carefully examined. Disease was looked for unsuccessfully in both frontal and maxillary sinuses. The mastoids were separately examined and the ear drums inspected, but no symptoms of disease discovered. After a time the patient complained of little chills at intervals, and vomited without apparent reason so far as the condition of the stomach and the vomited matter was concerned. Posterior rhinoscopy showed nothing abnormal. Transillumination of the face showed the two sides alike, not well lighted, this probably due to either thick cheeks or small antra. There was nothing abnormal by the anterior rhinoscopy. Both ears were examined perfunctionally with everything apparently normal and hearing good, and no pain nor tenderness in the region of the ear.

Without any warning and without any apparent local disease, there was discharged from the right ear in the course of a night at least two drams of dark pus which came through a perforated drum head and gave some relief to pain and nervousness. Afterward, commencing paralysis, and following the paralysis, a convulsion took place. A diagnosis was made of a localized lesion, probably abscess, in the neighborhood of the motor cortical area for the right leg and foot, secondary to suppuration in the pharynx. An exploratory operation was undertaken to relieve the local symptoms, but the trephine disclosed nothing definite. The patient did well after the operation and the wound healed completely. Shortly after, the patient died from exhaustion.

The postmortem findings were as follows: The skull-cap was moderately adherent over the longitudinal sinus. There were some flakes of pus on the convexity of the dura over the anterior portion of the sinus. The left hemisphere showed several punctate extravasations about the needle wounds of the trephine operation. The dura was only slightly adherent over the upper border of the left hemisphere with light fibrous exudate. The blood-vessels of the dura and pia were thrombosed over at least 6 cm. of the upper surface of the left hemisphere nearest the longitudinal sinus. The cut surfaces of the cortex itself had a dull greenish white appearance. The longitudinal sinuses were filled with a suppurating thrombus. There were a number of flakes of suppurating fibrin along the lateral walls of the sinus. Both lateral and both sigmoid sinuses were full of pus and blood, the right distinctly fluid. The dura over the right petrosa was adherent on the posterior surface. The jugular veins in the neck were not examined. No indications of infection were found in the lungs, the heart or in the abdominal organs. The right temporal bone was removed for more careful study, and with it portions of the surrounding bones. There was no sign of disease in the external auditory meatus, but the petrosa showed a honeycombing from erosion. If we attempt, in the light of the autopsy, to analyze the symptoms in the case and refer each to its pathologic source, we must first assume an early forgotten or overlooked middle-ear disease, perhaps as early as childhood or babyhood. There can be little doubt that the antrum was the primary focus of the infection. There is nothing in the pathological findings which would explain the facial neuralgia.

From a study of this case it seems reasonable to make the following conclusions: 1. Mastoid antrum disease is the appendicitis of the head. 2. In every case of infection within the head, where some other source of the infection can not be demonstrated, the mastoid antra should be explored. 3. The facial neuralgia is not explainable by the pathologic findings. 4. The excellent mental condition even up to the last seems hardly consistent with the obliteration of both jugulars and the suppuration in the great sinuses of the dura.

NEW YORK ACADEMY OF MEDICINE.

Meeting of the Section on Medicine, held March 19.

Dr. E. Franklin Smith, chairman.

Points Connected with the General Etiology and Pathogenesis of Diabetes Mellitus.

DR. HEINRICH STERN, in a paper on this topic, gave the results of his study of the mortality statistics of New York City for the period from 1889 to 1899 inclusive. It was from two to 2½ times more frequent in the male than in the female. Hebrews were specially liable to diabetes, but the Irish also showed some predisposition. This racial influence he attributes largely to the breeding in and in still so common in both of these races. Diabetes is not a disease of the rich alone, as some seem to think, for, of the 102 males dying from diabetes in one year, 66 were working people living in tenements. The author distinguished clinically five varieties, viz.: 1. Alimentary glycosuria; 2, hematogenic glycosuria; 3, neurogenic glycosuria; 4, common or hepatogenic diabetes, and 5, diabetes deterioration. The speaker said that many writers distinguish only two forms, a mild and a severe, and look upon them as differing in degree only. Seegen was the first to recognize two distinct and independent clinical types, and Dr. Stern added a third—the diabetic deterioration. This last form he considers a manifestation of a specific plasmogenetic process.

Diagnosis and Prognosis of Diabetes.

DR. HENRY S. STARK contributed a paper on this subject. He said that neither an acute nor a chronic glycosuria is sufficient for a diagnosis of diabetes mellitus; the glycosuria must be accompanied by polydipsia or polyuria with a deterioration of the general health. The cases most likely to be overlooked are those in which the quantity of glucose in the urine is small and the specific gravity low. Among the important symptoms of diabetes mellitus are extreme and persistent fatigue after only moderate physical exertion, acid saliva with a reddened tongue, premature grayness or sexual weakness, diminution of the patellar reflex, muscular cramps in the legs and muscular weariness. The fermentation test is the nearest approach to the ideal clinical test for glucose in the urine, and for the relative quantitative determination Fehling's test still holds its own. No one test should be considered sufficient: there should always be a control test. With proper diet and management many diabetics will live for ten or fifteen years. The prognosis depends on the age, the power of assimilating carbohydrates, early diagnosis, the condition of life, stage of the urine, and the existence of complications. Diabetes is always fatal in children. The quantity of urea excreted affords the best guide to the amount of tissue destruction. In the mild form are to be found those cases in which the glucose disappears when carbohydrates are excluded from the diet, while the severe type embraces cases in which the glucose does not disappear even under these conditions.

Diabetes in Children.

DR. HENRY DWIGHT CHAPIN made some remarks on this subject. He said that diabetes is very rare in children, but Gerhardt collected 111 cases, the ages varying from 11 months to 16 years. Dr. Chapin has only seen two cases, both exhibiting rapid emaciation and running a rapidly fatal course.

The Nervous System in Diabetes.

Dr. **Pearce Bailey**, in his paper on this subject, said that all experimental glycosuria is temporary, and the evidence in favor of the nervous system as the origin of diabetes seems to be weakened rather than strengthened by modern research. Permanent glycosuria following experiments on the pancreas has been observed only when the pancreas has had its connections with the nervous system completely severed. He has found diabetes most commonly as a complication in general paresis, multiple sclerosis, tabes, myelitis, neurasthenia, paralysis agitans and hysteria. Neuritis is so common in diabetes that the urine should be tested for sugar in every case of neuritis.

Cutaneous Complications in Diabetes.

Dr. **S. Sherwell**, in his paper, said that the most common cutaneous manifestations observed in connection with diabetes mellitus are generalized scleroderma, eczemas of various kinds, erythematous lesions, such as erysipelas and gangrene, dermatitis herpetiformis and xanthoma diabeticorum. He is also disposed to include blastomycetic dermatitis. Furuncles of the neck and gluteal region are also frequently observed in diabetics. The eczematous lesions are best treated by promoting cleanliness and using some antiparasitic lotion, such as a 1 to 1000 solution of bichlorid of mercury.

Ocular Manifestations in Diabetes.

Dr. **Neil J. Hepburn** mentioned the following in this connection: cataract, retinitis, oculomotor paralyses, iritis, paralysis of accommodation, keratitis, hemianopsia, glaucoma and detachment of the retina.

Diabetes Mellitus in Surgery.

Dr. **Robert T. Morris**, in a paper on this phase of the subject, said that the modern surgeon does not fear to operate on a diabetic as did those of earlier days, though he recognizes the proneness to infection, the irritability of the kidneys and the possibility of the occurrence of gangrene. The speaker attributed the interference with the healing process to the abnormally dry state of the tissues resulting from the abstraction of moisture from them by the sugar-laden blood. The blood, under these circumstances, is also a good culture-medium for bacteria. Because of the state of the kidneys, the selection of the anesthetic is of importance; he personally prefers nitrous oxid in these cases as a preliminary to ether.

Treatment of Diabetes Mellitus.

Dr. **Abraham Mayer** presented this communication. He said that it is a great mistake to entirely exclude the carbohydrates from the diet, except for the purposes of diagnosis or at the commencement of treatment. Milk forms an important part of the diet of his diabetic patients, because they can often assimilate a large quantity of lactose without detriment. The food should be adjusted to the sex and weight of the patient, and he takes into consideration the laboriousness of the occupation. In neurasthenic diabetics he has often found opium act like quite a specific. He commences with a half grain three times daily, gradually increasing the dose to three times this quantity, it being understood that diabetics exhibit a special tolerance for this drug. He also uses Fowler's solution of arsenic, and of the bromid of arsenic in doses of 1/30 to 1/10 gr. three times a day. The patient should be protected from worry and nervous shocks. Phthisis is a very common complication of diabetes.

Glycosuria and Diabetes Mellitus in Relation to Life Insurance.

Dr. **E. H. Bartley**, in his paper on this topic, said it is generally admitted that an appreciable quantity of sugar is present in normal urine, and the question arises as to when glycosuria should be considered as synonymous with diabetes mellitus. His view is that when a trace of sugar sufficient to be detected by Trommer's, Fehling's or Nylander's test is present in the urine, a second specimen of urine should be examined before accepting or rejecting the applicant for life insurance. There is no known chemical test for differentiating between a temporary glycosuria, possibly resulting from an indiscretion in diet, and true diabetes, but some hint of the true condition can be had by estimating the total solids in the urine for twenty-four hours. This can be done approximately by multiplying the last two figures of the specific gravity by the number of ounces voided. The normal quantity is about 1000 grains. As it is ordinarily impossible, however, to secure the total quantity of urine for the twenty-four hours, another method is to have the applicant remain in the office for one hour. Ordinarily about two ounces of urine can be voided in this time, but in diabetics this quantity will often reach three to seven ounces. Some allowance should also be made for the time of day.

Dr. **Andrew H. Smith** called attention to the fact that diabetes mellitus is about five times more frequent among locomotive engineers than among average people. He attributes this to the intense mental concentration demanded by their occupation.

Dr. **A. Rose** spoke briefly of the treatment of diabetes by the use of baths of carbonic acid gas.

Dr. **James K. Crook** said that almost all observers conceded that the liver is hyperemic in diabetes, and that this is due to a loss of tone in the vasomotor system. It is moreover known that anything which will cause a dilatation of the superficial capillaries, and hence a diminution of the quantity of blood in the liver will cause a lessening of the quantity of sugar in the urine. These and other facts seemed to indicate a close connection between the nervous system and the development of glycosuria. On the other hand, it has been shown that most diseases of the nervous system are not ordinarily associated with diabetes.

Dr. **Stark** said that fully one-third of the cases of diabetes have both albumin and sugar in the urine, but this is of no special significance unless there are other indications of nephritis.

Dr. **Mayer** said that he had not found albuminuria so common among his diabetics, and he would not look upon it so lightly, as he thinks it indicates that there has been a destruction of the epithelium covering the Malpighian tuft.

Dr. **Bartley** took the same position regarding the prognostic import of albumin in the urine of diabetics.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Epilepsy.

A correspondent asks advice on the following case: The patient is a boy about 6 years of age, who commenced having spasms about eighteen months ago. At first these were very light and occurred about once a month, but have gradually become more and more frequent until now fifteen or twenty occur each day and they last from one to five minutes. At first these attacks came on at night; now they occur both night and day and commence with a choking sensation. When the patient is in bed he rises up to a sitting posture, holds his breath, foams at the mouth, but never cries during, before or after an attack. After the attacks he will go to sleep almost instantly, and says the attacks do not hurt him, but that it feels like there is something in his throat. Appetite is good, but not excessive, digestion and general health fairly good. He was circumcised some time ago. Increasing doses of bromid continued about a month, made symptoms worse. He was then put on santonin and calomel, as there was a suspicion that worms was the cause of the trouble. Our correspondent asks for diagnosis and treatment.

Ans.—The child probably has epilepsy. As regards treatment. The diet should be regulated. He should be allowed to eat soft-boiled eggs; tender meats, bread, butter and potatoes. The elimination should be carefully looked into. The urine should be repeatedly examined for albumin or sugar, the amount of elimination by the kidneys should be calculated from a 24-hour product; and the amount of urea should be estimated. The child may have a nephritis as the cause of the disturbance, in which case the bromids would not be indicated. The teeth should be examined, the bowels properly regulated and hepatic stimulants administered if necessary. The entire trouble may be based on a toxemia, and if so by observing the above points, the attacks will be diminished.

For the bowels and liver, give small doses of hydrargyri chloridum mite at proper intervals. Mercury in this form and in small doses not only produces catharsis, but is a general glandular stimulant. Dilute nitro-muriatic acid in five-minim doses will stimulate the hepatic secretion. It should be given two or three times daily. If the kidneys are not eliminating properly the child may be given diuretics. The cause of the trouble should be ascertained, if possible, for it must be remembered that a great many remedies which are able to do good will, when not properly applied, have the same power to do harm.

AS TO THE TREATMENT OF THE ATTACKS.

The bromids are certainly the best agents, given in doses of as many grains as corresponds to the age of the child. This dose should be repeated three times a day and given immediately after eating. Toulouse and Ricket, of Paris, suggest withdrawing the chlorids from the diet in the endeavor to make the bromids more effective, thus making the system more subjective to their action. Boracic acid has been given in some cases with success when the bromids have failed to obtain the proper results.

Solanum Carolinense (horse nettle) is a powerful sedative. and has given splendid satisfaction in controlling the convulsions of epilepsy. It may be given in the form of fluid extract in doses of 8 to 10 minims three times a day. Acetanilid in small doses or monobromated camphor each have been of use in epilepsy. The following prescriptions are recommended, the dose to be varied according to the age of the child.

R.	Potassii bromidi	gr. vii		44
	Tinct. belladonnæ	m. x		66
	Spts. ammon. arom	m. x		66
	Syrupi aurantii	ʒss	2	
	Aquæ q. s. ad	℥ss	16	

M. Sig.: At one dose: to be repeated three times a day for a child 8 years of age.

Or,

R.	Potassii bromidi	gr. v		30
	Sodii bicarb	gr. v		30
	Pulv. rhei	gr. ss		03
	Spts. chloroformi	m.v		30
	Aquæ q. s. ad	℥ss	16	

M. Sig.: At one dose, repeated three times a day for a child of 8 years.

The Administration of Digitalis.

Hale White recommends the following formula:

R.	Tinct. digitalis	ʒiss	6	
	Tinct. nucis vomicæ	m.xlv	3	
	Caffeinæ	gr. xxv	1	66
	Iodii salicylatis	gr. xii		75
	Syrupi aurantii	℥ss	16	
	Aquæ q. s. ad	℥v	160	

M. Sig.: Two tablespoonfuls three times a day in water.

His object in giving this prescription is evidently to obtain the combined tonic effect on the heart and the diuretic effect of the caffein.

Treatment of Herpes Zoster (Shingles).

For herpes zoster, always begin the treatment by administering a saline purge. Keep the painful region dry by using the following dusting powder:

R.	Pulv. amyli	℥ii	64
	Pulv. camphoræ	gr. xxx	2
	Pulv. opii	gr. xv	1
	Zinci oxidi	ʒiv	16

M. Sig.: Apply locally as a powder, and

FOR THE NEURALGIA:

℞.	Ext. stramonii			
	Ext. hyoscyami, āā	gr. 1/5		012
	Ext. belladonnæ	gr. 1/10		006

M. Ft. pil. No. i. Sig.: One such four times daily.

Or,

℞.	Thiol		
	Aq. destil. āā	℥i	32

M. Sig.: Apply locally.—*Encyc. Pract. Med.*

Treatment of Neurasthenia.

Gray, in *Med. News*, states that the treatment of this disease consists in the removal of the cause, if possible. A certain amount of rest, both physical and mental, should be insisted upon; the administration of tonics and electricity should be carried out. The patient should lie in bed from ten to twelve hours out of the twenty-four, and avoid fatigue when he is up. Iron, quinin and strychnin are the agents most generally useful, where there is anemia, conjoined with large amount of meat and beef tea and an abundance of fresh air. In the non-anemic cases the best tonic is strychnia, from 1/50 to 1/30 grain three times a day.

Fecal Impactions.

As treatment when the impaction is located in the lower rectum, it can always be softened and evacuated by frequent copious enemeta of warm soap suds containing oil and glycerin. Gant, in *N. Y. Med. Jour.*, recommends the following:

℞.	Soap suds	Oi	512
	Castor oil	℥i	32
	Glycerin	℥ii	64

M. Sig.: Inject into rectum every two hours and retain as long as possible.

Treatment of Burns.

Armstrong, in *Med. Sentinel*, states, in treatment of burns ot second degree, that water or solutions containing water are bad; vaselin does not act suitably; the application of rough gauze to the surface is not proper. He cuts away every portion of the bleb and takes care that no margin is left under which any trouble may arise. He applies oleum ricini 95 per cent., and balsamum Peruvianum 5 per cent.; then he covers with oil silk, which may be perforated. Some cases may improve more in the later stages by resorting to the use of dry boric acid dressings.

An Ointment for Corns.

℞.	Acidi salicylici	ʒss	2
	Resini	ʒi	4
	Adipis	ʒii	8
	Olei amyg. dulcis	ʒi	4

M. Sig.: Trim the corn and apply this ointment placed upon a piece of cloth.

Tinea Circinata.

℞.	Sulphuris precip	gr. xlv	2	66
	Hydrarg. ammon	gr. xv	1	
	Thymol.	gr. iv		25
	Unguenti simplicis q. s. ad	℥ii	64	

M. Sig.: Apply locally night and morning. This is applicable in ringworm occurring in children.

Treatment of Neuropathic Alopecia.

The following prescriptions are given by Brocq.

℞.	Acidi acetici glacial	m. xii		75
	Tinct. cantharidis	ʒi	4	
	Spts. rosmarini	ʒi	4	
	Tinct. tritici	ʒii	8	
	Spts. camphoræ	ʒii	8	

M. Sig.: Apply locally.

Or,

℞.	Aq. ammoniæ	m. xxiv	1	66
	Tinct. pyrethri			
	Tinct. jaborandi āā	ʒi	4	
	Olei terebenthinæ	ʒi	4	
	Alcoholis.	ʒvi	24	

M. Sig.: Apply locally.

For Perspiring Feet.

The following rules have been laid down to prevent excessive perspiration of the feet: Wear low shoes, wool stockings, and dust the feet over twice a day with iodol. The following may be used as a wash:

℞.	Liq. plumbi diacet	ʒii	8
	Acidi carbol	ʒii	8
	Aq. q. s. ad	℥ii	64

M. Sig.: One tablespoonful to be mixed with a pint of warm water and wash the feet every morning and dry with a soft towel.

Treatment of Gonorrhea.

℞.	Plumbi acetatis	gr. xv	1	
	Zinci sulphatis	gr. xii		75
	Ext. krameriæ flu	ʒii	8	
	Tinct. opii	℥ss	16	
	Aq. q. s. ad	℥vi	192	

M. Sig.: Use as an injection twice daily.

To Remove Plaster-of-Paris Casts.

The *Med. Times* gives the following method of removing casts: Mark a line, with a lead pencil, on the cast. Along this line apply a little cotton or a thin layer of cotton-wool and soak the same with peroxid of hydrogen, the wool being about ½-inch wide. In a short time the plaster will be soft enough to be cut through with an ordinary knife or a pair of scissors. Vinegar or bichlorid solution may be used instead of the peroxid of hydrogen.

Administration of Oleum Morrhuae to Children.

Sheffield suggests the following as a palatable form of administering oleum morrhuæ to children:

℞.	Olei morrhuæ	℥ii	64
	Ext. malt.	℥ss	16
	Syr. calcii hypophos	℥ss	16
	Glycerini	ʒii	8
	Pulv. acaciæ	ʒii	8
	Aq. cinnamomi q. s. ad	℥iv	128

M. Sig.: One to two teaspoonfuls after each meal.

Astringents in Diarrhea of Children.

In cases where astringents are indicated, he recommends the following:

℞.	Bismuthi subnitratis	ʒi	4
	Misturæ cretæ comp.	ʒiii	12
	Glycerini	ʒiv	8
	Mist. acaciæ	℥iss	48
	Aq. menth. pip. q. s. ad	℥ii	64

M. Sig.: One teaspoonful every two hours until the diarrhea is checked.

Night Terrors.

Huber, in *Pediatrics*, states that he would omit ghost stories, goblins, giants, thrilling literature, exciting games, and avoid dark, poorly ventilated rooms. Heavy indigestible meals at night and the use of tea, coffee or alcohol in any form favor the occurrence. The mode of life of the patient must be studied, the habits investigated and taxation of the nervous system avoided. Tonics and hematinics should be given to the pale anemic children, and sometimes the bromids or other nerve sedatives to neuropathic children.

Medicolegal.

Sworn Certificate of Physician Indispensable.—The Supreme Judicial Court of Massachusetts holds, in the case of Audette vs. L'Union St. Joseph, that, in that state, when a by-law of a benefit association requires the production of a sworn certificate of a physician before any sick member shall receive benefits, the certificate is indispensable, and it is no excuse that the attending physician refuses to make one on account of conscientious scruples against taking an oath. Such a case, it says, comes within the rule that where one engages for the act of a stranger he must procure the act to be done, and the refusal of the stranger, without the interference of the other party, is no excuse.

State May Prohibit the Sale of Alum Baking Powders.—The Supreme Court of Missouri, Division No. 2, holds constitutional, in the case of State vs. Layton, the act of May 11, 1899, making it a misdemeanor "for any person or corporation doing business in this state to manufacture, sell, or offer to sell, any article, compound or preparation for the purpose of being used, or which is intended to be used, in the preparation of food, in which article, compound or preparation there is any . . . alum." It points out that as early as the thirty-seventh year of the reign of George III., the British parliament absolutely prohibited the use of alum in the making of bread; that, irrespective of the statute, it was held indictable to use it in large quantities; and that such seems still to be the statute law of England. And, in view of the sharp conflict of testimony as to the noxious or innocuous character of alum baking powders, it says that it can not take judicial notice that these powders are a perfectly innocuous preparation. As to the test, when the constitutionality of an act of the legislature is assailed as invading the right of the citizen to use his faculties in the production of an article for sale for food or drink, it says that, if it be an article so universally conceded to be wholesome and innoxious that the court may take judicial notice of it, the legislature, under the constitution, has no right to absolutely prohibit it; but if there is a dispute as to the fact of its wholesomeness for food or drink, then the legislature can either regulate or prohibit it.

No Liability for Refusal to Answer Emergency Call.—In the case of Hurley, administrator vs. Eddingfield, an action brought by the former to recover $10,000 damages for the alleged wrongfully causing the death of his intestate, the Supreme Court of Indiana says that the material facts alleged by the plaintiff may be summarized somewhat as follows: At and for years before the death of the intestate the defendant was a practicing physician at a certain place in that state, duly licensed under the laws of the state. He held himself out to the public as a general practitioner of medicine. He had been the intestate's family physician. The intestate became dangerously ill and sent for him. The messenger informed him of the intestate's violent sickness, tendered him his fee for his services, and stated to him that no other physician was procurable in time and that the intestate relied on him for attention. No other physician was procurable in time to be of any use, and the intestate did rely on the defendant for medical assistance. Without any reason whatever, the defendant refused to render aid to the intestate. No other patients were requiring the defendant's immediate service, and he could have gone to the relief of the immediate service, and he could have gone to the relief of the intestate if he had been willing to do so. Death ensued, without the intestate's fault, and wholly from the defendant's wrongful act. The defendant demurred to this complaint. The circuit court sustained his demurrer, and the supreme court now affirms the judgment of the lower court, holding that there was no error in its ruling on the demurrer. The supreme court says that the alleged wrongful act was the defendant's refusal to enter into a contract of employment. Counsel did not contend that, before the enactment of the law regulating the practice of medicine, physicians were bound to render professional service to every one who applied. The act regulating the practice of medicine provides for a board of examiners, standards of qualification, examinations, licenses to those found qualified, and penalties for practicing without license. The act is a preventative, not a compulsory measure. In obtaining the state's license (permission) to practice medicine, the state does not require, and the licensee does not engage, that he will practice at all or on other terms than he may choose to accept. Counsel's analogies, drawn from the obligations to the public on the part of innkeepers, common carriers, and the like, the supreme court adds, are beside the mark.

Verification of X-ray Pictures.—The Supreme Judicial Court of Massachusetts holds, in the personal injury case of De Forge vs. the New York, New Haven and Hartford Railroad Company, that, while a picture produced by an *x*-ray can not be verified as a true representation of the subject in the same way that a picture made by a camera can be, yet it should be admitted in evidence if properly taken. For example, in this case, after the plaintiff had put in evidence *x*-ray pictures of his two feet, the defendant company offered the glass plate from which his pictures were taken, and other pictures printed from the same plate. The photographer who took the plaintiff's pictures testified that he did not know much about the *x*-ray; while the person who took the pictures for the company was a physician of high standing, who had taken, as he testified in the neighborhood of a hundred *x*-ray pictures, and had seen the majority of them developed. Now, the evidence of verification the court considers was stronger in the case of the company's pictures than in the case of the plaintiff's, and, on this evidence, it says that it does not deem it possible that the judge could have excluded the plate or the company's pictures on the ground that they were not duly verified. As to the assertion that he might have excluded them in the exercise of the discretion vested in him, the court answers that it is in the matter of verification or authentication that the judge has discretion. It says that it can see no reason why the plate from which the pictures put in evidence by the plaintiff was printed should not have been admitted. It was produced by the photographer who made the pictures. It was not enough to render it inadmissible that it had on it the letters "R" and "L," which had been put on it after the pictures put in evidence by the plaintiff had been printed, these letters in no way obscuring the portion of the left foot in controversy and being certainly no more objectionable than the words "left" and "right" written in lead pencil under the toes of the plaintiff's pictures of his two feet, respectively. Moreover, if it were true, which it does not find to be the case, that there was some doubt as to the manner in which the plate was made, the court suggests that the exclusion should not have stopped with it, but that the plaintiff's pictures should not have been admitted. And it holds that it was clearly competent for the company to introduce evidence to show that the plaintiff's pictures showing an enlargement of one of the feet, and from which a witness for the plaintiff discovered a fracture, did not represent the left foot, as the evidence for the plaintiff indicated, but the right, and for this purpose to show the difference between an ordinary photograph and one taken by an *x*-ray. Wherefore, the court is of the opinion that the rights of the company were violated in the exclusion of the evidence it offered, and that the glass plate, the pictures taken by the company, and the evidence offered by it and excluded should have been admitted.

Manslaughter—Dying Declarations—Physician's Duty.—It was contended, in the case of the State of Washington vs. Power, a physician, that inasmuch as the statute makes it a substantive offense, punishable as such, for any person to administer drugs to or use instruments upon a pregnant woman for the purpose of procuring her miscarriage, such acts must be punished in the way the statute points out, under an indictment or information charging one or more of these specific acts alone, and can not, therefore, be the unlawful acts which were intended to be included within the statute defining the crime of involuntary manslaughter. The Supreme Court of Washington, however, does not think this contention sound. It says that it will be noticed that the statute prescribes a punishment for doing these specific acts, without regard to the effect such acts may have upon the person operated upon. The crime is completed when the prohibited acts are committed, and their effect is not made a material inquiry. And, as the legislature has made the acts punishable as acts, without reference to their consequences, it declares that it can not think it was intended to exempt a person causing the death of another by these means from being informed against and punished under the general statutes relating to unlawful homicides Objection was also made in this case to the state being allowed to introduce statements made by the deceased some two days previous to her death as dying declarations. The answer of the supreme court on this point is that the rule requiring it to be shown that the declarations were made while the declarant was *in extremis* does not require that it be shown that they were made while the declarant was literally breathing her last. The rule is satisfied when it is shown that the declarant died in the course of the illness from which she was suffering at the time they were made, and that the illness from which she was suffering was the direct and proximate result of the original injury which the declarations tend to illustrate. Finally, it was urged that error had been committed in giving the jury the following instruction: "When a physician undertakes to attend an sick person, the law imposes upon him the duty of directing the sanitary conditions surrounding the patient, of prescribing the proper medicines and the times and manner of taking, and whatever other appliances and operations necessary to the restoration of health. As to the question whether or not the deceased was improperly treated in these respects, you are to find from all the evidence in the case; and, if you have a reasonable doubt from the evidence as to whether or not the deceased was improperly treated in these respects, then you must find the defendant not guilty." But it will be noticed, the supreme court says, that no attempt was made, in this instruction, to define the degree of care and skill required of a physician. This was done in the preceding instruction, which is not quoted in the opinion, and, while it is true that the word "gross" was not used, yet the jury were told that they could not find the defendant guilty unless they found that his neglect was willful and felonious. The charge as a whole, the court holds, was a clear and concise statement of the law applicable to the case, and could not have misled the jury.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical News (N. Y.), April 6.

1 *Advertising in the Profession. G. Frank Lydston.
2 *Resection of the Cervical Sympathetic. Howard J. Williams.
3 *The Question of Drainage in Appendicitis. A. M. Pond.
4 *New Methods in Charity, with Better Results at Less Cost. Wm. P. Spratling.

Boston Medical and Surgical Journal, April 4.

5 *Diseases of the Myocardium. Henry Jackson.
6 *The Condition of the Myocardium as Affecting Cardiac Murmurs. H. D. Arnold.
7 A Further Note on the Treatment of Epidermoid Cancer. Francis H. Williams.
8 Report of Cases from the Second Surgical Service of the Children's Hospital, Boston. (Congenital Paraplegia, Etc.) H. L. Burrell, R. W. Lovett, and J. E. Goldthwait.

Philadelphia Medical Journal, April 6.

9 *The Prophylaxis of Venereal Diseases. Prince A. Morrow.
10 *On Certain Disorders of Sleep. Charles A. Dana.
11 *General Metabolism in Diabetes Mellitus. David L. Edsall.
12 *A Preliminary Communication of a Study of the Brains of Two Distinguished Physicians, Father and Son. Edward Anthony Spitzka.
13 Santiago as a Yellow Fever Center. L. C. Carr.
14 *A Correlation of Some Facts in the Propagation of Yellow Fever, with the Theory of its Conveyance by the Culex Fasciatus. H. R. Carter.
15 Suprarenal Capsule—Its Use in Rhinological Operations. Charles C. Royce.
16 A Clavicle Crutch. Carter S. Cole.
17 A New Tenaculum. R. C. Coffey.

New York Medical Journal, April 6.

18 *The Active Principles of Digitalis Leaves. Joseph W. England.
19 *Comparative Pathology of the Jews. (Concluded.) Maurice Fishberg.
20 Pathology of Intrauterine Death. (Continued.) Neil MacPhatter.
21 *Rectal Feeding in Throat Diseases. A. C. Bardes.
22 Medical Aspect of Christian Science. W. M. Polk.

Medical Record (N. Y.), April 6.

23 *Relation of the Public to the Medical Profession. D. B. St. John Roosa.
24 *The Importance of Aseptic Vaccination, with Remarks on Vaccination in General. Wilhelm Karl Kubin.
25 *The Field for Ethyl Chlorid Narcosis. Martin W. Ware.
26 *On the Diagnosis and Prognosis of Diabetes Mellitus. Henry S. Stark.

Cincinnati Lancet-Clinic, April 6.

27 *Deformities or Defects in Development from Adenoids. John A. Thompson.
28 Gumma of the Sternum. Mark A. Brown.

St. Louis Medical Review, April 6.

29 Substitute Infant Feeding by Laboratory Milk. John Zahorsky.
30 *Surgical Management of General Peritonitis, Resulting from Perforating Appendicitis. John Young Brown.
31 *The Cure and Prevention of Scarlet Fever by the Use of Diphtheria Antitoxin. C. H. Dalton.

American Medicine (Philadelphia), April 6.

32 Medical Aspects of Carcinoma of the Breast, with a Note on the Spontaneous Disappearance of Secondary Growths. (To be continued.) William Osler.
33 Mortality of Operation for Obstructive Jaundice. (To be continued.) John B. Deaver.
34 *Phelps' Operation for Clubfoot with a Report of 1650 Operations. (To be continued.) A. M. Phelps.
35 An Obscure Case of Hysteria with Associated Right Mydriasis and Amblyopia and Left Myosis. (To be continued.) H. A. Hare.
36 *Carcinoma of Pylorus. Frank Billings.
37 *Puerperal Sepsis: Its Prevention and Methods of Treatment. E. E. Montgomery.
38 On the Anatomy of the Renal Vessels and Pelvis of the Kidney in Relation to Digital Exploration of that Organ in the Operation of Nephrotomy. William Keiller.
39 A Rare Form of Extrauterine Pregnancy. Brice W. Goldsborough and Thomas S. Cullen.
40 *The Early Diagnosis of Insanity. Carlos F. MacDonald.
41 Dust as a Factor in Diseases of the Upper Respiratory Passages. (To be continued.) W. Scheppegrell.

Bulletin of the Johns Hopkins Hospital (Baltimore), February.

42 *Preliminary Note of a Case of Infection with Balantidium Coli (Stein). Richard P. Strong and W. E. Musgrave.
43 Hyperextension as an Essential in the Correction of the Deformity of Pott's Disease, with the Presentation of Original Methods. R. Tunstall Taylor.
44 *Two Examples of Bence Jones' Albumosuria Associated with Multiple Myeloma. Louis P. Hamburger.
45 Report of a Case of Fulminating Hemorrhagic Infection Due to an Organism of the Bacillus Mucosus Capsulatus Group. George Blumer and Arthur T. Laird.

Louisville Monthly Journal of Medicine and Surgery, April.

46 Practical Consideration of Acute Suppurative Inflammation of the Middle Ear and Mastoid. J. Morrison Ray.
47 Diseases of the Sigmoid Colon. William V. Laws.
48 Traumatic Injuries of the Skull. R. C. McChord.
49 Infantile Malaria. William Britt Burns.
50 Malignant Tumor of the Omentum. C. E. Speidel.

Journal of Experimental Medicine (N. Y.), March 25.

51 *Malarial Parasitology. James Ewing.
52 *The Nerves of the Capillaries, with Remarks on Nerve endings in Muscle. Chr. Sihler.
53 *The Influence of Bile on Metabolism. Elliott P. Joslin.
54 *The Relation of Diabetes Mellitus to Lesions of the Pancreas. Hyaline Degeneration of the Islands of Langerhans. Eugene L. Opie.

Pennsylvania Medical Journal (Pittsburg), March.

55 *Report of Three Cases Bearing on the Subject of Ovarian Hydrocele. Reed Burns.
56 A Plea for the Earlier Recognition of Squint in Children by the Family Physician and the Earlier Application of the Methods of Treatment. C. A. Veasey.
57 Nausea and Vomiting in Pregnancy. John M. Batten.
58 Surgical Intervention in Purulent Discharges from the Ear. Joseph E. Willetts.

St. Louis Medical and Surgical Journal, April.

59 Deformations on American (Incan) Pottery Not Evidence of Pre-Columbian Leprosy. Albert S. Ashmead.
60 About Carbon Dioxid. Enno Sander.

Archives of Ophthalmology (New Rochelle, N. Y.), March.

61 The Equivalent Refractive Index of the Lens in Accommodation. W. N. Suter.
62 Exenteration of the Orbit for Malignant Disease with Immediate Application of Thiersch Skin flaps Throughout the Entire Orbital Wound. Harry Friedenwald.
63 *Different Methods in Which Glioma of the Retina Invades and Affects the Optic Nerve. E. F. Snydacker.
64 *On Ulcus Rodens Corneæ. Prof. Schmidt-Rimpler.
65 *Experimental Investigations on the Effect of Posterior Sclerotomy. Theodor Tobler.
66 *Clinical Contribution to the Subject of Unilateral Nystagmus. Otto Neustätter.
67 Contribution to Ophthalmoplegia Interna, with Special Reference to Reflex Iridoplegia. George Levinsohn.

Clinical Review (Chicago), April.

68 Surgical Clinic. (Osteomyelitis, Lymphoma, Etc.) N. Senn.
69 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

American Journal of Obstetrics, March.

70 *Preferable Technique of Closing the Incision in Abdominal Section and Herniotomy. J. Wesley Bovée.
71 *The Use of the Spray in the Local Treatment of Gynecologic Diseases. James C. Wood.
72 Interstitial Pregnancy. Louis J. Ladinski.
73 Glue Casts for Teaching Primary Repair of Perineal Injuries. Robert L. Dickinson.
74 A Few Observations on Cystitis with Presentation of a Cystoscope. J. M. Baldy.
75 A Report of Two Cases of Cesarean Section Under Positive Indications, with Terminations in Recovery. Daniel H. Williams.
76 Dry Labor: Report of a Case with a Peculiar History. L. W. Atlee.
77 Dermoid and Other Cysts of the Ovary. (To be continued.) Samuel W. Bandler.

Mississippi Medical Record (Vicksburg), April.

78 Cerebral and Meningeal Manifestations of Malaria. W. A. Carnes.
79 The midwife. B. L. Culley.

Annals of Surgery (Philadelphia), April.

80 *Conservative Operations for Renal Retention. Christian Fenger.
81 *The Appendix in Relation to the Psoas Muscle in Three Hundred Male and One Hundred and Eighteen Female Adult Autopsies. Trauma of the Psoas Muscle Produces Appendicitis. Byron Robinson.
82 *The Value of the Roentgen Method of Diagnosis in Detecting and Excluding Renal and Ureteral Calculi. Charles Lester Leonard.
83 *Ileus Due to Vascular Obstruction. L. L. McArthur.
84 Ileus Due to Mechanical Obstruction of the Fecal Current. D. A. K. Steele.
85 Ileus Caused by Neoplasms. A. J. Ochsner.
86 *Fissure of the Head of the Radius:* Carl Beck.
87 Excision of the Cervical Sympathetic Ganglia for Exophthalmic Goiter. J. Shelton Horsley.

Medical Dial (Minneapolis, Minn.), April.

88 Radical Cure of Femoral Hernia. Knut Hoegh.
89 Chloretone in General Practice. Harry F. Thompson.
90 Quinin as an Antipyretic. J. Hobart Egbert.

Love's Medical Mirror (St. Louis), March.

91 *Fatty Degeneration of the Heart. Thomas G. Satterthwaite.
92 A Report of Two Cases of Knee-Joint Trouble Occurring in Infants. F. B. Hall.
93 "Acute-Purpura Hemorrhagica with Autopsy." F. W. Gavin.
94 *The Cure and Prevention of Scarlet Fever by the Use of Diphtheria Antitoxin. H. C. Dalton.
95 Persistent Suprapubic Vesical Fistula Treated by Means of Bottini's Operation. Willy Meyer.

New Orleans Medical and Surgical Journal, April.

96 Relation of a Case of Cardiac Embolus Following Forceps Delivery; Death Fifteen Days Later. L. G. Lebeuf.
97 Case of Supra-vaginal Amputation of the Uterus for Fibroids Complicating Pregnancy. C. Jeff Miller.
98 Ankylosis of the Temporo-Maxillary Articulations with Osteoclasis and Formation of New Joints. Paul A. McIlhenny.
99 Three Cases of Ocular Disease. M. Feingold.
100 Suprarenal Liquid with Chloretone in Rhinology. Chas. F. Sauter

Medical Council (Philadelphia), April.

101 Disorders of the Sexual Function in Man. (To be continued.) A. H. P. Leuf.
102 Hemorrhoids: Etiology, Pathology and Treatment. Charles F. Hope.
103 An Unusual Case of Eclampsia. Wm. B. Kenworthey.
104 A Case of Erythema Scarlatinaforma. Ralph Browning.
105 Curing Common Colds. Quick Cure of La Grippe. B. F. Underwood.
106 Injection Method for the Relief and Cure of Hernia. C. Fletcher Souder.
107 Vesico-vaginal Fistula, Spontaneously Closed After Vaginitis. W. O. Bunnell.
108 On Suggestive Therapeutics, Magnetic Healing, and Osteopathy. T. H. Line.
109 Poisoning by Hyoscin Hydrobromate. A. G. Servoss.
110 *Pneuma-Massage. Chas. B. Morrell.

Southern Practitioner (Nashville, Tenn.), April.

111 Charge to the Graduating Class of the Medical Department of the University of Tennessee. Perry Bromberg.
112 Use of Bromids in Hysteria, Delirium, Etc. J. S. Murphy.
113 Laparotomy for Pus in the Pelvis Under Analgesia from Intraspinous Injection of Cocain—A Clinical Lecture. Wm. D. Haggard, Jr.

Medical Examiner and Practitioner (N. Y.), March.

114 *Under Average Risks. E. Poels.
115 *Mitral Stenosis. J. Mora Moss.
116 *The Significance of Arteriosclerosis in Life Insurance Examinations. S. Mahillon.
117 *Deaths by Lightning. S. W. Abbott.
118 *Cremation as a Life Insurance Problem. Frederick L. Hoffman.

119 Wheeling for Health and Not for Records. F. S. Grant.
120 Acute Parenchymatous Nephritis Engrafted on an Old Granular Kidney—Uremia from Suppression of Urine—Coincident Venesection and Normal Saline Transfusion. Talbot Jones.
121 Treatment of Lobar Pneumonia in Children. C. Eugene Lack.
122 Some of the Advantages of the Local Examiner Making and Sending Direct Examinations. B. Roscoe Gary.
123 Should the Medical Examiner Return His Report of an Applicant for Life Insurance to the Agent. John H. Duncan.

Southern California Practitioner (Los Angeles), March.

124 Physical Effect of Alcohol. W. V. Whitmore.
125 A Case of Contracted Pelvis. F. O. Yost.
126 Mutual Obligation of the Medical Profession and the Public. Geo. L. Cole.
127 Treatment of Incised Wounds. Albert Soiland.
128 Percentage Artificial Feeding. Kate Wilde.
129 Care of Chronic Cases in Sanatoria. W. Jarvis Barlow.

Southern Medical Journal (La Grange, N. C.), March.

130 Some Practical Points in the Study of Typhoid Fever. Geo. W. Lecato.
131 Clinical Aspect of Pneumonia. J. W. P. Smithwick.
132 Visiting the Sick. D. S. Merrill.
133 Skin Grafting: A Report of Two Cases. J. W. P. Smithwick.

Carolina Medical Journal (Charlotte, N. C.), March.

134 *Moot Questions in Abdominal Surgery. H. A. Royster.
135 Pneumonia. I. W. Faison.
136 *Notes on Heroin and Heroin Hydrochlor. T. W. Keown.
137 Importance of Dilating the Pupil in Treating Inflammatory Diseases of the Eye. W. H. Wakefield.

Charlotte Medical Journal, March.

138 *Moot Questions in Abdominal Surgery. H. A. Royster.
139 *To Cut or Crush in Stone of the Urinary Bladder. Stuart McGuire.
140 A Case of Severe Mastoid Neuralgia. John Dunn.
141 *Have We a New Treatment for General Septic Infection? Van Telburg-Hofman.
142 One Day's Experience in General Practice. I. A. McSwain.
143 Has Cod Liver Oil a Place in Pediatric Therapeutics? Henry Y. Ostrander.
144 Lithemia. Addison E. Jones.
145 The New Century. T. B. Greenley.
146 Toleration and Intolerance. T. Beath.

New England Medical Monthly (Danbury, Conn.), April.

147 Report of State Hygiene. Granville P. Conn.
148 Case of Extreme Anematosis. T. J. Biggs.
149 On the External and Internal Employment of Argentamine. Dr. Bergel.
150 Prevalence and Treatment of Gout. Charles W. McIntyre.
151 Abuse of the Curette. Augustin H. Goelet.

AMERICAN.

1. **Medical Advertising.**—In this article Lydston holds that advertising is a necessity in the medical profession as in others, and notices the way in which the Code of Ethics is circumvented if not often openly violated by professional men. He notices the multiplication of medical colleges which are coming to make it a distinction not to be a professor, and remarks that while teachers often pose as philanthropists selfish advertising is the most probable cause of their action. He maintains that the unwritten law of the medical profession, that its members must keep themselves in the background, has been one of the greatest stumbling blocks to professional advancement and the influence of physicians would be greatly increased if it were ignored. Medical men should take a hand in public affairs and make themselves prominent in politics and other matters, and should not object to legitimate notice. This, however, does not include self puffs or courting newspaper notoriety in medical matters, inviting reporters to clinics, etc., or publishing alleged new discoveries from undigested and insufficient research. He says careful, conscientious work and good results are the best advertisements, but in order to get these we must have patients.

2. **Resection of the Cervical Sympathetic.**—After reporting a case of resection of the cervical sympathetic for glaucoma, Williams reviews the history of the operation and mentions its indications. He says sympathectomy is indicated in glaucoma simplex, inflammatory glaucoma where iridectomy has failed, hemorrhagic glaucoma early in the disease: and it should be tried in absolute glaucoma with pain in preference to enucleation. In unilateral trouble the ganglion of the corresponding side should be excised. While sympathectomy may not be curative in every case of glaucoma, the results thus far have been sufficiently satisfactory to make it a desirable procedure in this much-dreaded disease. The operation in other conditions such as Graves's disease, etc., is noted, but the author thinks that its use in epilepsy is practically a failure, judging from reported experience. The bad effects reported in animals from cervical resection do not appear to occur in human subjects.

3. **Drainage in Appendicitis.**—The question of drainage in appendicitis is noticed and Pond thinks that the peritoneum is capable of disposing of large quantities of pus if equally distributed over the peritoneal area. What is needed is some agent which will put pus and pus-forming elements into solution. The requisites of such are sterility, the power of holding the pus, blood, etc., in a homogeneous solution, and that it should be a stimulant to absorption. Hot normal saline solution meets all these requirements, and he mentions also as adjuvants, increased hepatic activity and posture. Elevation of the foot of the bed sometimes a few inches tends to gravitate the fluids toward the diaphragm and leads to absorption. Six cases are reported illustrating these ideas, and while he says that these may not be of much statistical value they prove we can do without drainage in appendicitis. The general trend of surgery at the present time is to do without drainage, which is only essential in surgery of certain glands, ducts and cysts to remove irritating fluids, as in cases involving the stomach, spleen, pancreas, liver, gall-bladder and urinary bladder. The old maxim, "when in doubt, drain," is about, he thinks, to be revised to read, "when in doubt do not drain."

4. **Charity Methods.**—Spratling's summary of his article is given in the following propositions: 1. Prevent insanity, epilepsy, imbecility, idiocy and feeble-mindedness, as far as possible, by making it impossible for persons so afflicted to marry. 2. Build less expensive structures in which defective and dependent state charges shall live. 3. Maintain at less cost the cases that are chronic and incurable, and maintain at greater cost, to stimulate recovery, those that probably can be cured. 4. Give those that ought to have it an education that they can use, either in the institution that cares for them, that the cost of their maintenance can be lessened, or in the outer world, when they leave the institution, after the state has done its work well and turned them back into the great business current, as nearly normal men and women as science and art can recreate them.

5. **Myocardial Diseases.**—Cases and the associated conditions of the clinical picture of heart disease are noticed by Jackson; those for instance due to obstruction of circulation, embolism or thrombosis of the coronary arteries, inflammatory processes, atrophy, tumors, hypertrophy and dilatation which may be caused by valvular disease, diseases of the heart wall including chronic myocarditis and new growths, and from causes outside of the heart by pericardial adhesions, kidney and lung disorders, systemic poisonings, and overwork, as also from some causes as yet unknown or obscure. In arteriosclerosis we find as a rule much greater enlargement of the heart than in valvular disease.

6. **Cardiac Murmurs.**—The origin of cardiac murmurs from valvular disease has been over-estimated. Arnold discusses the subject at length. He thinks that mitral regurgitation may occur without any valvular disease whatever, and is inclined to believe that all the anemic murmurs of the left side of the heart are really due to mitral regurgitation. When any murmur exists it is of importance to investigate the myocardium. We may find it due to an entirely remediable condition of the cardiac muscle instead of an incurable valvular disease, hence the importance of investigating for other signs than murmurs alone.

9. **Venereal Diseases.**—The medical aspects of the social evil in New York are discussed by Morrow who notices the extent of its consequences and gives the noteworthy points. He has investigated the origin of syphilis in the syphilitic women in his hospital service during the past year. Fully 90 per cent. were married and, excluding all cases where there was suspected irregularity, there were 70 per cent. who appeared to

be cases of conjugal infection. The innocent victims of venereal diseases are not confined to marital relations; there are many other possibilities which he enumerates. He does not believe the regulation of the social evil according to the European methods is ever going to be practicable in this country. The methods he suggests are the hospital care of every case possible and a campaign of education.

10. **Sleep Disorders.**—Sleep is a period during which the brain rests from its consequent activities, empties itself of the products accumulated by this activity, and builds itself up for future work. Excessive sleep, Dana thinks, is like a flux in which too much is carried away, while insomnia is a constipation in which morbid products are retained. Insomnia is in itself often an overrated symptom. The majority of people can get along with perhaps one-half to one-third their usual amount of sleep if they rest quietly in bed, and, therefore, a certain loss of sleep is not necessarily damaging. He gives illustrations of the varieties of insomnia, morning insomnia from 3 o'clock on, connected with degenerative changes in the brain, worry or something of that sort, insomnia from motor shocks, epileptoid disturbances which the author does not consider is connected with genuine epilepsy. This, he thinks, is simply due to circulatory changes taking place in a rather over-tired, excitable cortex. The other symptoms of psychic shocks, apprehension, sensory shocks, etc., in neurasthenic cases, waking vertigo, migrainous seizures in sleep, paresthesia, painful dreams, epileptoid conditions, sleep-walking, etc., are also mentioned. Most of these symptoms occur in connection with such underlying conditions as neurasthenia, lithemia, arteriosclerosis, cardiac weakness, and a few can be ascribed to digestive disorders and a few perhaps to abortive forms of epilepsy. The treatment consists in attention to the underlying conditions, heart and general tonics, antilithemic remedies, attention to the general health; moderate exercise and fresh air are perhaps the best hypnotics. The safest medicinal agent, if any is to be used, is single small doses of bromid persistently kept up.

11. **Diabetes.**—The theory of diabetes and the general metabolic changes taking place in this disorder are discussed at length by Edsall, who is inclined to think that the cause of the disease is either through a loss of the normal power of destroying sugar or from a lack of normal power of producing glycogen and thereby controlling the amount of sugar supplied to the blood. Either of these theories will satisfactorily explain the condition. Apparently the imperfect glycogen production theory is the one most favored by the author. He quotes the experiments of Sachs, who found that extirpation of the liver in frogs did not alter the power of these animals to assimilate glucose but produced a strong tendency to alimentary levulosuria.

12. **The Brains of the Seguins.**—Spitzka's article gives a comparison of the brains of two distinguished physicians, the Seguins, father and son, and points out special features of each and those that are common to both, correlating these with their traits as exhibited during life. In each the left insula was markedly developed over the right, the left occipital index was smaller than the right and the left frontal larger. These and a number of other facts give strong evidence, he thinks, of direct hereditary transmission, but there was a curious fact of the reproduction of unilateral asymmetrical peculiarities of one side in the father's brain and on the other in the son's. The great development of the insula is striking and, according to Spitzka's view, seems to be connected with the special speech development and general power of expression exhibited by both possessors of the brains.

14.—This article is noticed editorially in The Journal of April 13.

18. **Digitalis.**—England questions the assertion made by Solomon, that digitoxin is the chief active principle of digitalis, on the ground of its slowness of action. While the fat free tincture made by him produces physiologic effects in from fifteen to sixty minutes, it takes from six to thirty-six hours to produce them with digitoxin.

19. **Comparative Pathology of Jews.**—In his concluding article Fishberg sums up the facts by stating that the death rates of the Jews are relatively and absolutely lower than those of other races. Their marriage and birth rates are smaller, but their low death rate causes a more rapid increase. They are especially free from many of the infectious diseases such as epidemic cholera, smallpox, and tuberculosis, and from syphilis and alcoholism with their consequences. On the other hand, they are especially liable to diabetes, functional neuroses and psychoses, though not to organic nervous diseases. The great majority of cases of amaurotic idiocy occur in Jewish children, and insanity is from two to five times more common than among the Christian population. Color-blindness, trachoma, glaucoma, hemorrhoids, hernias, varicose veins, etc., are very frequent among the Jews. Not all these peculiarities are due to ethnic, or racial characteristics of anatomy or physiology, but to the history and habits of life, and they are readily lost when the Jew adopts the customs and habits of those around him.

21. **Rectal Feeding.**—Bardes recommends rectal feeding in throat affections, reporting cases to show its success. Its advantages are, he thinks, non-irritation of the throat, avoidance of struggling in children, shortening of the progress of the disease, absence of the danger of food entering the larynx, the possibility of giving just such food and stimulation as desired, and the food is not bolted, as it is when swallowing is painful.

23. **The Relation of the Public to the Profession.**—Roosa's paper is a review of the advances that have been made in medical education and medical science generally in the past century.

24. **Aseptic Vaccination.**—The value of vaccination and the possible untoward complications are noticed by Kubin, who gives an extended series of cases obtained from the literature, by correspondence and by personal observation. He describes his method of aseptic vaccination, i. e., thoroughly scrubbing with soap, washing with alcohol and ether and again with sterilized water; then after scarifying and rubbing in the virus, he covers the wound with an aseptic gauze compress, fastening it with strips of adhesive plaster. His aseptic shield, which can be applied over the site of the vaccination, is also described. In conclusion he suggests laws for compulsory vaccination and revaccination, and special teachings as to the methods in medical schools and instruction in public schools on the importance of vaccination.

25. See abstract in The Journal of February 2, p. 343.

26. **Diabetes.**—The symptoms of diabetes and its method of diagnosis are first noticed. Stark considers the use of the yeast fermentation test and especially the differential density test of Roberts as the best for office work. The reduction tests by copper and bismuth have a certain negative value, that is, they prove that the urine which does not react is free from sugar, though they do not absolutely prove its presence. In quantitative estimation he specially mentions Rudisch's saccharometer. As regards prognosis a number of conditions must be taken into account: the age, power of assimilation of carbohydrates, early recognition of the disease, complications, the condition in life, state of the urine and power to assimilate fats and nitrogenous foods. All cases arrange themselves into one of three types from the prognostic standpoint: 1, the mild type where glucose disappears with gradual decrease of carbohydrates; 2, the intermediate type where it only disappears after complete exclusion of carbohydrates; 3, the severe type where this exclusion is unavailing.

27. **Deformities Due to Adenoids.**—These conditions are illustrated and described by Thompson, who accounts for them in a general way, assuming the defect to be caused by the lack of development due to important functions. He shows how the nose, mouth, thorax, ear, etc., may be thus impaired or deformed.

30.—See abstract in The Journal of April 6, p. 986.

31. **Diphtheria Antitoxin in Scarlatina.**—Some two years ago Dalton accidentally discovered that diphtheria antitoxin

was an excellent remedy in scarlet fever, and later investigations, he claims, have proven that it is equally efficient as a preventative. He has tried it in so many cases that he classes it as a sovereign remedy. He has used it in twenty-five or thirty cases since his first one, has immunized the other children in the family and has had no mortality whatever. He has been impressed by the mild form assumed after the use of antitoxin in a number of cases after running a severe course. See also title 94.

34. **Clubfoot.**—Phelps argues against trusting orthopedic measures in the treatment of clubfoot, excepting when employed early in life, and then favors simply the use of the hands. The method that he proposes is given as follows: 1. Exclude all cases which, by manipulation or force, can immediately or in a reasonable length of time, says a few weeks, be cured; then the following rule should be followed: 2. Cut the contracted parts as they first offer resistance, cutting in the order of those parts which first contracted when the deformity was produced, beginning with the tendo Achillis open. 3. The shortened inner side of the foot and short skin indicates the operation. The operator will then proceed, after strong manipulation or force is applied with a clubfoot machine or with the hands, to divide subcutaneously, first the tendo Achillis. If the skin is not short, subcutaneous tenotomy in the sole of the foot will usually suffice. If the skin is short an open incision about one-fourth the distance across the foot should be made, beginning directly in front of the inner malleolus, and carrying down to the inner side of the astragalus. Through this incision the following tissues can be cut, if they offer strong resistance, in the order given: Tenotomy of tibialis posticus; division of abductor pollicis; division of plantar fascia through the wound; division of flexor brevis muscle; division of long flexors; division of deltoid ligament, all its branches; peroneus longus—posterior ligament. 4. Linear osteotomy through the neck of the astragalus. 5. Resection of a wedgeshaped piece of bone from the body of the os calcis, the point meeting the linear osteotomy through the neck of the astragalus. The foot will now swing to a straight position. (This paper is to be continued.)

36. **Pyloric Carcinoma.**—The case reported by Billings, which was successfully operated on, was in a young man, aged 28, and interesting otherwise by the presence of much HCl. in the stomach, in excess of what is usually the amount in this disease and the fact that perforation occurred with an opening the size of a lead pencil without producing serious disturbance or discomfort. The operation was hastily made at night, but recovery was good, though subsequent involvement of other abdominal organs has apparently occurred.

37. **Puerperal Sepsis.**—The prevention of puerperal sepsis by proper aseptic precautions on the part of the physician and the nurse before, during, and after labor is insisted on by Montgomery and the treatment recommended by him summarized as follows: 1. Prevention by the exercise of the most careful asepsis and antisepsis. 2. The accurate study of each puerperal case to recognize the cause of high temperature and eliminate other factors than sepsis. 3. The maintenance of the vital forces and the promotion of elimination by the administration of diet and remedies to meet indications. 4. The employment of serum injections when streptococcic infection can be recognized or justifiably inferred. 5. Resort to operative procedures must be governed by the local manifestations. Curettement is rarely justifiable in pure sepsis. Peritonitis or localized cellular inflammation in the pelvis should indicate vaginal incision and drainage. Hysterectomy is indicated whenever the uterus can be recognized as the seat of localized collections. When the ovary or tube only is involved, it should be removed. The recognition of a pus collection should indicate its evacuation or the extirpation of the organ in which it is situated. 6. The continuance of symptoms of sepsis when local manifestations are not recognized will justify incision to determine the presence of secondary sources of infection.

40. **Insanity.**—Insanity is a relative condition and MacDonald, therefore, dwells on the importance of comparing the patient with his normal self, when making the diagnosis. The various symptoms are mentioned, both physical and mental, and he remarks that the range of normal mental action is so wide that a person ought not to be called insane unless there is a prolonged departure from his normal mental self. The diagnosis from severe physical illness should be carefully made, as meningitis, delirium tremens, etc., have sometimes led to mistakes. The two most frequent prodromes are insomnia and constipation. The importance of relieving these, especially the insomnia when associated with any mental symptoms whatever, is insisted upon.

42. **Balantidium Coli (Stein).**—Strong and Musgrave report a case which came under their observation suffering from diarrhea, constantly becoming aggravated and finally uncontrollable, and extreme emaciation, relative increase in eosinophiles in the blood and the presence of flagellate infusoria in the stools. At the necropsy there was considerable evidence of inflammation in the jejunum and ileum, shallow ulcerations, presence of Balantidium coli in the intestinal coats and lymph follicles, etc. Although certain authors have expressed the belief that the parasite is only an *accidental and unimportant* complication, the writers agree with Henschen as to its pathologic importance and consider it the exciting cause of the conditions found.

44. **Bence Jones's Albumosuria.**—In the first case reported the urinary reaction was acid; the urine was pale and of low specific gravity, gave a wide range of Heller's test and heavy precipitates when heated, clearing up on boiling and on the addition of acetic acid. A precipitate appeared with nitric acid, which dissolved again on boiling and reappeared with cooling; proteid contents of .27 per cent. and biuret reaction in cases where found. The examination of the urine sufficed to make the probable diagnosis of myeloma. The patient suffered from tenderness of the bones, nausea, loss of weight, etc. In the second case the urine was in a general way similar to the first, the proteid contents still greater, and there were some hyaline casts present. Hamburger gives the history of Bence Jones's albumosuria and describes the myelomata which have been found in the cases. He reports in full also the history of Kahler's case as illustrating the disease. He knows of but one other condition which can be diagnosed from urinary examination, and that is the widespread destruction of liver substance characterized by the presence of leucin and tyrosin in the urine.

51. **Malarial Parasitology.**—Ewing's article reviews the technique of examination of the general morphology of the parasites of malaria, and discusses the question of plurality of species in the estivo-autumnal group, studying specially their structure. He describes a form of conjugation of the tertian organism, and concludes by saying that whatever theory will finally be established regarding the variety of human malarial parasites, the evidence would seem to justify the opinion of Kruse, Canalis, Babes, Celli, Danilewsky, and others who regard the existence of several species as not yet proven, and find not only in malarial parasitology, but especially from comparative biology, that the phenomena of the disease are more easily reconciled with the existence of a single polymorphous species. He thinks that in many ways the knowledge of this would be furthered by adherence to a unicist theory as a practical working basis.

52. **Nerves of the Capillaries.**—The conclusions of Sihler's article in substance are as follows: 1. The endings of the motor nerves in striped muscle remain on the outside of the sarcolemma. Aside from the surfaces of contact of muscle and nerve fiber, the end fibers are covered down to their tips with the sheath of Schwann and provided with nuclei. The precise condition of things at the places of contact of nerve and muscles is as yet an unsolved problem. 2. The ivy-like or festooned arrangement of motor nerves in the frog's muscle has been misinterpreted. Properly interpreted it demonstrates that the nerve fibers which influence the muscle fibers are not naked and that they need not be end fibers. Mere contact between muscle fiber and nerve fiber is all that is needed. 3. The sheath of Henle in the frog and in the smaller muscle fibers of the snake is open, permitting escape of the cerebrospinal fluid. 4. In

other animals Henle's sheath extends over the end fibers of the motor nerves and cells lining it envelop the end fibers. The so-called *Sohlensubstanz* of Kühne is derived from the cells of *Henle's sheath.* 5. The terminal fibers in smooth muscle form a network entwining the bundles. The author considers it improbable that each plain muscle fiber has a special nerve fibril. 6. In muscular tissue fine non-medullated nerves, probably belonging to the centrifugal, vasomotor system, proceed from fasciculi of motor nerves, and can be traced directly to a network surrounding the capillaries. From this network fine, nucleated, nerve fibers pass to the walls of the capillaries to which they are closely united. 7. The nerves supplying the capillaries connect also with sensory nerves, these nerves surrounding the larger arteries and veins. 8. The branches of the chorda tympani in the submaxillary gland terminate on the capillaries, not in the gland cells. 9. In muscular and glandular tissues—and perhaps throughout the body—there is a vast peripheral nervous plexus. These nerves of the capillaries, which may perhaps be regarded as nutritive nerves, regulate the production and transudation of lymph and are concerned in glandular secretion. These can be called into activity by peripheral and central nervous influences and from the sympathetic ganglia and influence, through their connection with these vasomotor nerves on the vessels, the blood supply of a part.

53. **Bile and Metabolism.**—The conclusions of Joslin's article are that bile increases the digestion of fat when given in pill form. The percentage of fat lost in the stools of the patient (who had a biliary fistula allowing collection of bile) was 63 per cent. in the first and 57 per cent. in the third periods of the experiment when bile was not given. This corresponds closely with Muller's results in human beings and dogs with complete obstruction of the common duct. Under bile medication the stools contain 23 per cent. less than found in the first period, and 17 per cent. less than in the third, representing the actual diminution in the amount lost in the stools. In other words the average digestion of fat in the periods without bile was 40 per cent. and with bile 60 per cent. 2. The digestion of nitrogenous food is improved by the use of bile pills when the fat is excessive in the stools. Instead of the average 15 per cent. being lost, 7 per cent. escaped digestion during the four days the patient took bile. This is perhaps accounted for by the better digestion of fat at this time allowing the proteid elements to be more thoroughly exposed to digestive juices. 3. Ox bile is a cholagogue. The amount of bile-solids secreted in the bile period was 47 per cent. greater than in the period before and after. This confirms the work of other investigators. 4. The effect of bile on the bowels was not remarkable, yet they moved more satisfactorily. In dogs diarrhea was usually produced. Pfaff finds it variable in patients; in some it is laxative, in others it has the opposite effect. 5. It is observed that the urea and nitrogen was excreted in greater amount in the bile period than in either of the others. No definite conclusions, however, can be drawn, because more nitrogen was ingested during the four days and the salol given may have been a factor. 6. The urine was increased more than 50 per cent. during the bile period, and the amount was about the same as when the bile was taking its natural course. Von Noorden has recorded a similar increase following removal of the obstruction in acute catarrhal jaundice. The salol coating on the bile pills, which amounted to 1.25 grams, was not sufficient to account for this fact.

54. **The Islands of Langerhans.**—In a previous number of this journal Opie described the alterations in these structures in the various forms of chronic interstitial pancreatitis and discussed the relations of these lesions to diabetes. He has recently had the opportunity of studying the specimens from a case of diabetes in which the causal relation between these bodies and the disease was more clearly demonstrable. These were the seat of a degeneration which had left unaltered the secreting parenchyma of the gland. The history of the case, with microscopic findings and the staining reactions, is discussed in detail, and it forms a very striking illustration of the connection of these bodies with the disease found in them, and supports the inference from preceding cases since here only the islands of Langerhans were involved. The conclusion is justified that these structures influence carbohydrate metabolism and what has been learned concerning the relation of the pancreas to diabetes is the relation of the islands of Langerhans to the disease.

55.—**Ovarian Hydrocele.**—Three cases bearing on the question of ovarian hydrocele are reported by Burns. The anatomical conditions are described. He thinks that they support the view of J. Bland Sutton that the so-called tubo-ovarian cysts are cases in which the ovary and distal end of the tube have been shut in by adhesions into an unusually deep ovarian fossa and the space so formed and its connecting tube have become distended with fluid. They are not strictly ovarian hydroceles, but this term is used, nor are they tubo-ovarian cysts. In operating, if we find the condition the better course is, he thinks, to throw a ligature around the tissues containing the ovarian artery on the pelvic side and another around the artery and tubes close to the uterus, then split the tissues over the ovary and remove it and the tube. Mass ligatures around the ligament containing the ovary are hazardous, being liable to include the ureter.

63. **Retinal Glioma.**—The methods of invasion of glioma of the retina, as described by Snydacker, are stated as follows: 1. The commonest method of invasion is for the tumor cells to force their way through the interspaces of the lamina cribrosa, into the nerve-fiber bundles, to follow these backward, invading them and substituting glioma cells in their place. 2. The perivascular spaces of the central vessels also afford a means of ingress for the tumor cells. The tumor pushes its way in alongside the vessels, and then the cells radiate outward in the stroma of the nerve exactly as the anatomy of the parts would lead us to expect, for the septa are connected with the vessel sheaths, radiating outward and forming the sustentacular framework of the nerve. 3. The cells, after infiltrating the nerve-fibers through the lamina cribrosa, invade the pial sheath, fill the intervaginal sheath, run backward and reinvade the nerve, mainly along the septa. 4. The cells invade the choroid, then follow the course of the posterior ciliary vessels and nerves. In this manner they may invade the dural sheath in one of two ways: they may force their way between the fiber bundles of the sclera and thence into the dural sheath and intervaginal space, or they may make their way into the retrobulbar space and from here invade the dural sheath. 5. The glioma cells follow the course of the venæ vorticosæ and from here follow the lymph channels into the supravaginal space and infiltrate the nerve sheaths. 6. Tumor perforates the ball and invades the nerve from the orbit.

64. **Ulcus Rodens Corneae.**—This rather rare condition is described by Schmidt-Rimpler who reports a case. The disease commences as a narrow extended ulcer along the corneal margin. It differs entirely from ulcus serpens which usually begins at the center and progresses toward the periphery. It might be more readily confounded with shallow marginal ulcers seen in old people, but the periphery does not heal with new formation of vessels and thickening of the tissues while the ulcer extends centrally. Moreover, these ulcers have not the undermined gray margin and they are more transparent. There is a particular form of marginal ulcer, which he has called in his text-book chronic peripheric furrow keratitis, which might be confounded in the beginning with ulcus rodens and is the probable cause of some cases reported cured of the latter, but it never extends centrally as does ulcus rodens. The etiology of rodent ulcer is uncertain. He rejects the view of Ahlstrom and others that it may be due to anesthesia of the corneal nerves. The most rational treatment, he thinks, is cauterization and scraping, and possibly covering the ulcer with conjunctiva, though one can not always expect good results.

65. **Posterior Sclerotomy.**—Tobler's conclusions are summed up as follows: 1. The meridional sclerotomy gapes more and bleeds less than the equatorial and hence is preferable to the latter. 2. In the living eye a posterior sclerotomy does not give rise to a current from the subconjunctival space into the interior of the eye, but this occurs in the dead eye. 3.

After a posterior sclerotomy a centrifugal current arises, passing from the interior of the eye through the section into the subconjunctival space. 4. The liquid which escapes through the wound is watery and contents salt. 5. The wound may be expected to close by the eighth day, under normal circumstances.

66. **Unilateral Nystagmus.**—The cases reported by Neustaetter show that unilateral nystagmus may appear in all varieties assumed by the bilateral nystagmus, and he is of the opinion that it is not to be distinguished as regards its nature from this. The transference of nystagmus from one eye to the other indicates in his mind that we should consider it indicating nothing more than a modified bilateral nystagmus.

70. **Closure of Incision in Abdominal Section.**—Bovee describes his technique in closing incisions in abdominal sections and herniotomy, which is essentially the use of abdominal sutures in tiers somewhat on the plan of Marcy's method elaborated. He found kangaroo tendon and catgut to be the best. Thorough asepsis is practiced and five or six tiers at least are employed. The dressing is composed of several thicknesses of gauze soaked in flexible collodion in all but the upper and lower layers. A well-fitting bandage over all completes the dressing, which is undisturbed for twelve to fifteen days. The advantages which he claims for it are that it leaves no injured tissue to slough, produces firm and rapid union, dressing is cheap and comfortable, and needs no changing, the exposure to infection is almost *nil*, the bandages afford proper support to the abdominal wall, and the resulting scar is excellent. He has used his method forty-five times without a single bad result, and in five years he has seen but one hernia result from the use of this method with a somewhat less perfect technique during most of the time.

71. **The Spray in the Local Treatment of Gonorrheal Diseases.**—Wood has been dissatisfied with the swab and tampon processes, and has experimented with the spray in local treatment. He calls attention to its advantages

80.—This article was abstracted in The Journal of March 16, p. 773.

81. **Relation of the Appendix to the Psoas Muscle.**—Robinson describes the relation of the appendix to the psoas muscle in 118 autopsies on females and 300 on males, giving an elaborate summary of the conditions.

82. **Skiagraph Detection of Calculi.**—From an examination of 136 cases of calculi, the detection of 19 cases of ureteral and 17 cases of renal calculi, Leonard concludes that both negative and positive diagnoses by the Roentgen method are accurate and valuable; that the ureteral calculus is more common than has been supposed, amounting to about 50 per cent. of all, and that the non-operative treatment without negative diagnosis by this method is irrational. It is precise, but accurate reading of the results are necessary. In case of small calculi low down in the ureter non-operative treatment can be permitted. Negative diagnosis does not preclude exploratory nephrectomy, but it makes unnecessary the actual incision into the kidney in search for calculi. Dilatation of ureter with bougies, as has been practiced in the female, may be employed in the male, by utilizing a suprapubic cystotomy wound to guide the instrument.

83. **Ileus from Vascular Obstruction.**—McArthur describes a case of ileus due to cutting off of the circulation of the coats of the bowels. He gives the four most constant symptoms of ileus caused by mesenteric embolism or thrombosis: 1. Blood seen either in the washings from the bowel, in bowel movements and in the vomitus, unaccompanied by the tumor of intussusception. 2. Colicky-like pains, associated with pains in the back and lumbar region. 3. Early collapse if the embolism has been sudden or extensive. 4. Cardiac disturbance. arythmia, great frequency, albuminuria.

91. **Fatty Degeneration of the Heart.**—Fatty degeneration of the heart, according to Satterthwaite, is a common affection, though it is not to be classed as a disease *sui generis*. It is rather a process attending lack of compensation in valvular disease, and also occurring in other conditions. It is caused by fevers, toxemia, dyscrasias, mechanical injuries, disorders of nutrition and may be a physiologic process of senility or after parturition. He divides it into three stages, early, intermediate, fatal, each being distinguished by certain clinical signs. In the early stage the prognosis is best for complete recovery. In the intermediate it is not good for complete arrest, but the patient may be so far improved as to enjoy a higher degree of health for an indefinite period. In the third or final stage the prognosis is always unfavorable.

94.—See also ¶31.

110. **Pneuma-Massage.**—The method of pneuma-massage is described. The apparatus consists of a small motor, massage pump and a set of cups. The pump has three valvular actions: 1. Pressure, which forces a column of air against the part, like the tapping of a hammer; it has an almost human touch of great delicacy. 2. An alternating current that gives a vibratory effect, shaking the skin up and down from 250 to 10,000 times per minute, depending on the speed of the motor. 3. That of suction or dry cupping. The extent and duration of the vacuum is under the control of the operator, who can constantly relieve the pressure by raising his finger even when the motor is at its maximum speed.

114. **Under Average Risks.**—Poels remarks on the ignorance of the experience of American physicians by European practitioners, and asks for co-operation in changing this. He thinks that insurance companies may possibly do injustice by too rigid rules and thinks we have striking examples among those now issued as impaired or under-average lives, of the feasibility of the plan of using a more liberal policy in regard to admission to insurance. He asks whether certain cardiac diseases are now to be regarded as proof of sudden or premature death? Shall the non-fatality of heredity be forever denied? Are we not now in possession of data showing the comparative harmlessness of certain hereditary tendencies or personal defects? He believes that many risks are unjustly declined by insurance companies, causing financial loss to them, and resentment on the part of the examined.

115. **Mitral Stenosis.**—After describing the etiologic factors, diagnosis, etc., Moss notices three points in the investigation of the heart which should be attended to in every examination: "1. Remembering that the thrill and murmur are often perceptible in a very limited area only, auscultation should be practiced not alone over the area for the four valves, but over the whole precordia as well. 2. Palpation should be made not only at the apex, but to the right of it also. 3. Percussion should always look for extension of the area of cardiac dulness upward and to the right. In employing these three procedures as a matter of routine, cases will be discovered that might otherwise escape detection." He also calls special attention to a sure and rapid method of determining any abnormality in the vertical extent of cardiac dulness which, so far as he knows, is original with Dr. J. Wilson Shiels, of San Francisco. "It consists in placing the third, second and first fingers of the left hand upon the third, fourth and fifth interspaces respectively. The divergence of the fingers will usually be found to correspond so well with the divergence of the ribs that the fingers will lie evenly in the spaces. Now striking the fingers from above downward, we normally obtain three notes of distinctly different quality, due respectively to lung tissue alone, to heart and lung, and to heart alone. Any variation from the normal will at once attract attention, and its cause may be sought by the usual methods."

116. **Arteriosclerosis.**—The significance of arteriosclerosis to life risks is discussed by Mahillon, who thinks that in the majority of cases its existence with antecedent heredity or history is a matter of serious importance and, with a history of gouty or rheumatic diathesis added, makes the gravest risks. The habits of the patient should always be taken into consideration, especially those who drink, the occupation, such as the liquor and tobacco business especially. All gouty and rheumatic applicants for insurance, who have passed their 40th year and have rigid arteries or disorders of the heart function, history of angina pectoris or who use tobacco to excess should

be rejected. Where indications of arteriosclerosis are only slight and heredity is good, the heart and kidneys free from lesions and the habits in all respects exceptionally good, the cases may be accepted.

117. **Deaths by Lightning.**—Abbott finds that in Massachusetts, during the last fifty-seven years, there have been 185 deaths from lightning. A lightning stroke is not always fatal and many persons have been injured only. The majority of the victims were men, i. e., 129. The greatest number occurred in the summer months. In about one-half, death occurred in persons from 15 to 40 years of age and only 4 were in children under 5 years of age. This is due to males and young adults taking the greatest risks. He finds also, by examining the census reports, that death by lightning is more frequent in states which lie along the base of the Rockies, and in heavily timbered regions of the Northwest, than in the North Atlantic Coast region.

118. **Cremation.**—Hoffman pleads for precautions before giving permits for cremation, and especial care on the part of physicians in giving a certificate of the cause of death where cremation is to be performed.

134.—This article has appeared elsewhere. See THE JOURNAL of April 6, title 41, p. 991.

136. **Heroin.**—After giving his experience with the drug Keown says that the properties of heroin and heroin hydrochlorid are sedative and analgesic, hypnotic and antispasmodic, and it is much to be preferred to morphia, because it leaves no depression, is not followed by nausea, whether taken before or after meals, while heroin hydrochlorid agrees very well with all stomachs.

138.—This article has appeared elsewhere. See THE JOURNAL of April 6, title 41, p. 991.

139.—Ibid., ¶38, p. 994.

141.—Ibid., ¶39, p. 994.

FOREIGN.

British Medical Journal, March 30.

Some Clinical Aspects of Chronic Bright's Disease. ALFRED G. BARRS.—The pathologic distinctions of the different forms of Bright's disease are not specially valued for clinical purposes by Barrs. The real question is, in his opinion, whether the condition is chronic or acute. Statements as to the prevalence and duration of life in the different forms of renal diseases are likewise considered of no weight in determining the dangers and management of any given case. The indications for treatment and prognosis depend entirely on the effects the disease has had and is having on the general health and vital functions, and are determined by conditions existing at the moment. As regards the etiology, he doubts the causative relation of acute Bright's disease to the chronic forms. Acute cases usually end in recovery or death. The average chronic case arises without any history of what could be regarded as an acute attack. As to how they arise is one of the most difficult questions to answer—the natural suggestion would be infection. He does not even credit alcohol as being a common cause and, as regards gout, he considers the relation quite as often the reverse, gout being the result of renal disease. The recognition of chronic renal disease is not always easy and only one point is of value, viz., albuminuria. He has never seen a case of albuminuric retinitis, the only distinguishing sign which could be presented, without the co-existing presence of albumin in the urine. The statement that chronic Bright's disease can exist without albuminuria he believes arose entirely in the postmortem room; it can not be diagnosed during life. While the presence of albumin is of the greatest importance, its quantitative estimation is of no value whatever and the estimation of urea is likewise unimportant. Urines of low specific gravity without albumin are said to indicate chronic Bright's disease, but this is not a reliable indication, and as regards tube-casts, he thinks no urine that does not contain albumin need be searched for them. The cardiovascular changes are not so uniformly inevitable or so common as ordinarily supposed, and recognizable high blood tension is not the rule. The danger is in the falling, not in the increasing, blood pressure in chronic renal disease. Arteriosclerosis altogether independent of renal affections is a more common cause of cardiac hypertrophy than Bright's disease, and vascular disease of this nature is probably a cause as well as result of renal disorders. It is also the real cause of cerebral hemorrhage that is so often attributed to kidney trouble. The really fatal symptom of Bright's disease is toxemia. As regards the diet, he objects to the purely milk diet. He thinks it has no marked advantages, and his rule is that if the bowels and kidneys are moving freely the patient may live on such ordinary mixtures of diet, including meat, as he has appetite for and as are digested. The distinctions we draw between the different kinds of meat, in treating cases of gout, are in his opinion ridiculous. Alcohol may be avoided if cardiac failure does not require it. As to the drugs, he has no great faith in anything except the systematic use of purgatives for the general treatment, and beyond that no drugs are necessary except for the special symptoms as they arise. Barrs does not place much reliance on the so-called vicarious action of organs. Diuretics, such as digitalis, may be of use, but almost as frequently fail. Diaphoretic drugs like pilocarpin are sometimes unpleasant not to say dangerous in their effects. Hot baths, and hot-air baths which are directly under our control will do all that can reasonably be done. Nervous and respiratory disturbances of the more severe degree of renal toxemia will tax our therapeutic resources to the utmost. They generally also indicate portending death. The old practical rule that opium and morphin should not be given is still one to be considered in most cases, but there are respiratory and mental disturbances in which morphin alone relieves and for which it may be given with safety. He thinks in a certain kind of wakeful, painful, non-soporific form of uremia morphin is of the greatest value, and if care is exercised can be used without harm. The contraindication is that which common sense would suggest, viz., the presence of any tendency to coma.

On Generalized Infection in Gonorrhea. ARTHUR H. WARD.—The proposition offered in this paper is that the gonococcus produces an irritating toxin which is the direct cause of all the symptoms of the disease. In all cases it is absorbed into the system and causes systemic degeneration of varying severity. Gonorrhea, is therefore, a general toxic affection, while the microbes which form the toxins are generally localized on or around a mucous tract. The microbic invasion may extend to organs connecting with the infected tract, or may penetrate into the tissues either by direct invasion as by infection or penetration through the uterus, through the Fallopian tubes or by processes of growth through the affected mucosa. The absorbed toxins paralyze the leucocytes and prevent their action on the microbes. Having reached the circulation, the gonococcus may invade the heart or be carried into the peripheral capillaries. Invasion is favored by too energetic measures directed to local infection, since they depress the local powers of resistance and, by abrading or lacerating the mucous surface, may practically open a door to invasion. The general treatment must vary according to the general conditions, and will differ as these are referred to toxemia alone or to toxemia complicated by metastases. Local treatment is always required and should be without violence of any kind. These ideas are amplified to some extent. The existence of the toxin has been demonstrated by De Christmas and others. The larger the areas of microbic growth, the greater the quantity of toxins that may be developed and absorbed, and Ward holds that local inflammation is the direct evidence of toxic absorption. In prolonged gonorrhea severe general toxemia may occur in persons debilitated by drink and other causes. In the female the interior of the body may be invaded by direct extension through the uterus and Fallopian tubes. Ward thinks that diffuse peritonitis may be due to this cause, though it is either rare or unrecognized. The lymphatics, glands and the general circulation may be invaded and severe symptoms are produced when the heart is involved. As regards the treatment of metastases of gonococcus by drugs, the author says the less said about it perhaps the better. Internal treatment by a drug of the germicide class is probably indicated. Quinin holds out the best hope of relief, though if it fails it is well to try mercury, arsenic or salicylates. When, on the other hand, toxic degeneration is threatening, a careful treatment directed to oxidation and elimination, such as potassium iodid internally, large quantities of water, baths, exercises, change of air, etc., will be of most service. He also calls special attention to the dangers of too energetic measures addressed to local infection, and gives an illustrative case in which there was a general infection due, he thinks, to a too active treatment in the acute stage. It pointed out to him the danger of favoring the generalization of gonococci by too energetic measures, causing abrasions or injury of the mucous surface. Since that he has not allowed any instrument to be passed in the acute stage, nor has be employed high pressure injections or abortive antiseptics.

On the Treatment of Glycosuria and Diabetes Mellitus with Sodium Salicylate. R. T. Williamson.—Sodium salicylate has been strongly recommended for diabetes, by Ebstein of Göttingen, though it has apparently not been much prescribed in England. Williamson has been testing it recently on a patient, covering a period of twenty-two weeks, during which time he estimated the sugar excretion, with results that seemed to him proof that sodium salicylate had in this case a definite influence in greatly diminishing the sugar excreted. He has also tried it in nineteen other cases, but as only one of these was in the hospital, the results are less reliable. In most cases the diet was restricted at the same time the sodium salicylate was given. A brief statement of some of the cases is recorded. He says he does not think it advisable to give sodium salicylate if serious complications are present or if the patient appears to be losing ground rapidly, because the drug has a bad reputation with some and a fatal termination during the treatment might be attributed to it. He says it is not a specific and it does not usually have a marked effect on the severe forms, but in certain mild cases it is indicated. It is not suitable in all cases, and when administered needs to be carefully watched and fairly large doses are usually necessary to produce decided results. The natural sodium salicylate is more satisfactory than the common artificial preparation. It is best to commence with 10 gr. doses three to four times a day, and increase it up to 15 gr. four or five times a day, watching carefully for any toxic symptoms. In the severe forms, though sodium salicylate does not usually cause much change in the sugar excretion, the patient sometimes gains in weight and improves in general condition.

Journal of Tropical Medicine, March 15.

Some Notes on Blackwater Fever, More Especially in Regard to Its Causation and Treatment. R. U. Moffat.—The author rejects the quinin theory from his own experience, and also the idea that blackwater fever is a specific disease or condition of independent of malaria. His opinion is: "Blackwater fever is a complication of malaria only produced when the blood glands have lost their normal regenerating power, either through the influence of malaria or any other constitutional cause. It is then caused by a chill acting on the surface of the body when the malarial parasites are in active development some hours before their sporulation. The effect of the chill is to cause a determination of the parasites to the deeper organs at a time when they should be in the peripheral circulation, and as a result sporulation takes place prematurely and there is a sudden death of all parasitic-bearing corpuscles." The latter part of his theory, dealing with the manner in which the chill acts, is pure speculation, he admits, though there are facts to support it. In regard to the main point, the influence of a chill at a certain stage, his opinion is based on such practical experience so often repeated that it is impossible to regard it as coincidence. In one case he had examined the blood immediately before the attack and found it swarming with parasites. The next morning after the attack he could not find a trace of them. For some reason the parasites disappear directly hemoglobinuria ensues whether quinin be given or not. He thinks the brood, the sporulation of which produces blackwater fever, aborts at once and the condition tends to spontaneous cure. He has been careful to avoid leaving his bed until the temperature is normal in case of malaria, and therefore has generally escaped blackwater fever. In one case where medical duties made him violate this rule his fears were realized; the chilling of the body surface brought on the disease. For the treatment, he believes quinin, 5 gr. three times a day, is a good prophylactic. If malaria develops in spite of this the greatest care should be taken to avoid chills. The patient should go to bed at once if possible. The question whether we shall or shall not give quinin arises. He has himself given it with so much success that he dare not take the risk of experimenting without it. Owing to the gastric irritability the quinin, and in fact all medicaments, must be administered hypodermically or per rectum. He prefers the former because we require the rectum for the purpose of alimentation in these cases, and to favor elimination of free hemoglobinuria as quickly as possible, and prevent blocking of the kidney tubules, he encourages the patient to drink freely of bland liquids to flush the kidneys. It is true that vomiting is produced, but still a certain amount of fluid is absorbed and the vomiting would occur anyway, and it is good to have something to vomit. He offers his theory of the disorder as a provisional working one which in his opinion best meets the requirements.

Annales de Dermatologie (Paris), February.

Study of True Pemphigus. C. Audry.—A typical case of pure, chronic pemphigus was made the subject of special research in respect to the alterations in skin, blood and urine. The leucocytosis, the adenopathy and marked disturbance in the urinary interchanges, demonstrate that nothing in the organism escapes altogether the action of the still-unknown poison which causes the disease. The blister may develop between the horny layer and the granular layers, or between the rete mucosum and the basal cylinder layer. It may likewise cause the total denudation of the papillæ by lifting up the epithelium or by secondary destruction of the epithelial elements which cover the papillæ. Small collections may also originate in the rete Malpighii. All these various forms were observed in this case, but the relative integrity of the subepithelial connective tissue was remarkable and also the absolute and paradoxical integrity of the prickle cells. These facts suggest that the epithelial and cutaneous lesions are secondary, and derived from some more general cause. The blister can develop only in case of pre-existing alterations in the epidermis, and it has no more significance in pemphigus than râles in pneumonia.

Antagonism Between the Skin and Buccal Mucosa in Syphilis. A. Renault.—In a large number of cases, fully 75 per cent., the cutaneous manifestations of secondary syphilis are not accompanied by lesions in the bucco-pharyngeal mucous membrane. A dozen cases are described as illustration of this antagonism, and Renault observes that we are justified in promising patients with a confluent, papulous syphilide, that the lips, tongue and throat will not be affected. The facts also demonstrate that inveterate smokers need not at once stop smoking, but may break off gradually—smoking is always deleterious in secondary syphilis, immediate total suppression is not necessary under these circumstances.

"A Woman Who Has Borne a Child to a Syphilitic Husband Is Necessarily Syphilized."—Besnier advanced this proposition at a meeting of the French Society of Dermatology, acknowledging that it was an exaggerated statement, but insisting that it is true in many more cases than is generally recognized, especially in those in which the husband's infection dates from only two or three years. The necessity of collecting data on the subject was emphasized, in order to discover the laws governing the phenomena in question.

Radiodermatitis or Actinocutitis from the X-Rays. Barthelemy.—A case of injury from X-rays is described, a sclerodermization of great extent, the skin smooth, white, elastic, thick, with occasional purpuric patches and absence of the usual glands or cells. It is peculiar from the fact that the first signs of injury did not appear until five months after the last exposure to the rays. Barthélemy is now engaged on a monograph containing the reports of ten unpublished cases of cutaneous lesions produced by the application of the X-rays as a revulsive measure in cases of salpingitis or perimetritis. New tubes and particularly vulnerable portions of the integument should be avoided, he observes, and it is still premature to introduce radiotherapy into current practice. Accidents are liable to occur when least anticipated in spite of all precautions. The physician, however, should not be held responsible any more than for a death during chloroform narcosis, when all the rules of science have been complied with.

Archives Generales de Medecine (Paris), March.

Plants in the Transmission of Malaria. Vicente.—The mosquito is not the only insect which transmits and inoculates malaria, according to Vicente. He has observed cases in which the transmitting agent seemed to be the plant lice that infest oleanders, palms and certain other house plants. He is convinced that the pollen of plants floating in the air may also transmit the germs, and that the parasite of malaria loses its virulence in time, but reacquires it when restored to a marsh or to conditions approximating a marsh, such as are afforded by the dirt, moisture and heat of house plants. Insects and pollen may be the intermediate conveyance to and from the marsh. He has previously reported a strange house epidemic of malarial infection, in the midst of Paris, traced directly to a large oleander, and which broke out afresh whenever the plant was brought into the house.

Bulletin de l'Academie de Medecine (Paris), March 12.

Helminths as a Cause of Appendicitis. E. Metchnikoff.—Physicians make a great mistake, Metchnikoff asserts, in not examining the feces as a routine measure, as they examine the blood and urine. He relates four instances in detail in which recurrent appendicitis apparently necessitated operation, but investigation of the feces at the last moment disclosed the presence of eggs of intestinal worms. Vermifuge treatment promptly cured the patient and there has been no recurrence during the years since. Helminths explain the occurrence of "familial appendicitis," and also the cases of supposed appendicitis in which the appendix is found normal. He concludes that no physician should neglect to examine the feces in cases of suspected appendicitis, and to administer santonin if ascarides are found and thymol in case of the trichocephalus. Persons inclined to appendicitis should refrain from eating raw vegetables or fruits or drinking impure water. The feces of children should be examined from time to time and vermifuges given as needed. These measures would cure many cases of appendicitis, attenuate the gravity of others and diminish the frequency of the affection. The trichocephalus burrows its head in the mucosa and may mechanically induce irritation. One male worm of this kind might induce appendicitis and yet no eggs be found in the feces.

March 19.

The Conditions and the Diagnosis of the Soil on Which Pulmonary Tuberculosis Develops. A. Robin and M. Binet.—In 1300 tests of the chemistry of respiration in 392 persons, it was found that in all but 8 per cent. of the 162 tuberculous patients included, the exchanges of gases in respiration were far more active than in healthy persons. Even in this small proportion, the exception to the rule was but transient in the majority. The results of the researches are tabulated and the averages show that in chronic tuberculosis the carbon dioxid exhaled per minute and per kilogram of body weight, is in women 86 per cent. more than in normal conditions, and in men 64 per cent. The total oxygen consumed increases in women by 100.5 per cent., and in men by 70 per cent. The oxygen not utilized in producing carbon dioxid and which is absorbed by the tissues, increases in women by 162.8 per cent. and in men by 94.8 per cent. The lung ventilation increases by 110 per cent. in women, and by 80.5 per cent. in men. This remarkable increase in the exchanges of gases exists also in the acute forms of tuberculosis and its importance in the diagnosis can not be overestimated. As the disease progressses and the lung capacity and the proportion of gases exchanged diminish, the ventilation increases in proportion and thus the excessive activity of the exchanges is maintained to the very last. As the disease yields to treatment and the patient is recovering, this peculiar chemistry of the respiration becomes less and less pronounced. Extrapulmonary manifestations of tuberculosis are accompanied by an exaggeration of the respiratory exchange of gases, but the lung capacity and the proportions of gases remain approximately normal. In tubercular meningitis and peritonitis, on the contrary, all these elements remain normal, and in lupus they are slightly subnormal. In order to determine the value of this exaggeration of the chemistry of the respiration as a diagnostic and differentiating measure, Robin and Binet have studied the exchanges in the respiration in forty other affections. Their research has extended over seven years, and the results show that although there is a certain resemblance between the chemistry of the respiration of a few other affections and that of tuberculosis, yet they all differ in some point sufficiently to distinguish them. In a persisting pleurisy, for instance, in which tubercular infection seems almost certain from the symptoms and the course, if the exchanges of gases and the amount of oxygen absorbed by the tissues are not exaggerated, the idea of tuberculosis can be definitely excluded, and the complete recovery in time confirms the diagnosis. The affections in which the chemistry of respiration approximates most closely that of tuberculosis, are la grippe, simple pleurisy, exophthalmic goiter and diabetes. It seems from these investigations that the descendants of consumptives must be classified in two groups: Those in whom the respiratory exchanges are normal and those in whom they are exaggerated. The former escape tubercular infection, but the latter are predisposed to the disease. In arthritism and scrofula, on the contrary, the respiratory exchanges of gases are usually below normal, which suggests an explanation for the familiar antagonism between these affections and tuberculosis. If, by studying the chemistry of the respiration, we are able to recognize tuberculosis in its incipient stages and even the predisposition to it, then the predisposed soil can be artificially modified. The greed of the tissues for oxygen can be artificially supplied, and the oxygen provided with some combustible other than the tissues. These measures, supplemented by the "mineralization of the tissues," which Robin has been advocating as an important measure in the struggle against tuberculosis, advance the campaign against tuberculosis, he believes, into a new and most promising phase in which by modifying the functional and nutritional aberrations which are necessary for the development of the tubercle bacillus, we can transform the predisposed into a refractory soil. These peculiar modifications in the chemistry of the respiration in tuberculosis contradict all the current medical or popular ideas in regard to it. The typical characteristics are, as we have seen, in the modified respiratory capacity, the percentages of the gases exchanged in the exhaled air, the ventilation, the volume of carbon dioxid exhaled and the oxygen consumed or fastened by the tissues in a given time in proportion to the weight of the subject.

Gazette Medicale Belge (Liege), March 21.

The Sclerogenic Method of Treating Hemorrhoids. Julie.—Instead of removing hemorrhoidal nodules with the thermocautery or bistoury, Julie, a French army surgeon, injects zinc chlorid. Three cases thus treated are described in detail. By the tenth to the fifteenth day there was not a trace of the large and distressing nodules left. He injects a half syringeful, more or less, in each nodule the size of a walnut. His formula is 50 cg. of zinc chlorid to 20 cg. of cocain hydrochlorate and 20 gm. of water. The circulation is so sluggish in hemorrhoidal tumors that he thinks there is no danger of embolism from the injections.

Journal de Medecine de Paris, March 3.

Influence of Medication on the Milk.—Houselot has recently presented a thesis on the subject of the drugs which pass from the nurse to the nursling. Atropin, digitalis, ergot and sodium salicylate pass into the milk, but in such minute quantities, he states, that they can be prescribed to the nurse without inconvenience. Mercury and potassium iodid are very uncertain in this respect, and in case of hereditary syphilis it is much better to administer them to the infant directly. Arsenic passes so readily into the milk that arsenical medication should never be given a nursing woman. Quinin also is found in the milk if ingested fasting. Consequently it should be administered at meals and the milk accumulated about three hours afterward should be artificially withdrawn and not given to the infant. With these precautions quinin can be given with impunity to nursing women. Opium should be substituted by antipyrin, which does not pass into the milk like the former. A prescription much used in Paris to promote the secretion of milk is as follows: Aqueous extract of galega, 10 gm.; calcium hydrochlorophosphate, 10 gm.; tincture of fennel, 10 gm.; essence of cumin, 15 gtt.; syrup, 400 gm.; dose, four tablespoonfuls a day.

Presse Medicale (Paris), March 13.

The Diet in Hyperchlorhydria. G. Linossier.—In mild cases of hyperchlorhydria or in the intervals of intermittent hyperchlorhydria, the diet should contain little nitrogenized substances, as the latter, and especially meat, stimulate the production of the gastric secretions to the maximum. But when the hyperchlorhydria is accompanied by distress and pain, then a nitrogenous diet is indicated, as albuminoid elements are readily digested, and although the gastric secretion may be stimulated, the hydrochloric acid combines with the elements of the food and very little remains uncombined. Eggs stimulate the secretions less than meat, and milk least of all. Milk also binds the hydrochloric acid most effectively. Fats have an inhibiting effect on the gastric secretions, and the prolonged use of considerable butter and cream, for instance, has a permanent effect in diminishing the hyperchlorhydria. In a case described by Strauss, a patient ingested 350 gm. of fats a day, and only 25 gm., or 7 per cent., could be discovered in the feces, and more than half of this was in the form of fatty acids or saponified.

Serums in Therapeutics. Vidal.—With the exception of antidiphtheria serum, none of the serums have yet answered the expectations aroused by the premature application to man of laboratory experiences. None of them seems to act directly on the microbe nor on its toxins; their action is apparently limited to the cells of the organism which they assist in the struggle against the microbian enemy. It is a general tonic, rather than a specific action. Gillet recommends injecting antidiphtheria serum at once and in sufficient dose without waiting for the result of bacteriologic examination, except in very mild cases. Hallion states that injection of artificial serum can not be considered a rinsing-out of the blood and tissues as there is no parallelism between the quantity of the urine afterward and the specific gravity of the substances eliminated in it. The toxins of diphtheria at least, are not eliminated in the urine after injection of artificial serum. Lesions of the kidneys, heart, lungs, or arteries may contraindicate its use. Baraduc injects a saline solution from a syringe that holds three grams, with a weak faradic current passing through the fluid. By this combination a smaller amount of fluid answers the desired purpose. As several cases of tetanus have occurred in Reynier's service he had a preventive injection of antitetanus serum made on a young man before an operation for hernia. In spite of this, the tetanus developed the same as in the rest, although mild at present. Vlaeff's anticancer serum continues to produce good results in his hands, but others are skeptical.

March 23.

Immunity to Smallpox. J. Courmont.—In an epidemic of 729 cases of smallpox at Lyons last year, the vaccin pustule and the variola developed simultaneously in 16 cases. In 24 the patients bore signs of numerous successful vaccinations, as much as six in fifty years in one patient. Three of these patients had had smallpox—ten, twenty or thirty-five years previously—and had each been successfully vaccinated two or three times. Courmont concludes that in some persons the immunity conferred is transient. Hence the greater the readiness of the response to vaccination, the more frequently one should be revaccinated. He advocates compulsory revaccination at 20 years of age. He noted that abortion or childbirth rendered the prognosis of smallpox much more serious. Only 8 survived out of 16 pregnant patients who were delivered. Five others left the hospital in good health before the termination of the pregnancy. None of the children were born with external evidences of infection, but 3 died in a few hours. Two survived without showing any signs of smallpox or vaccination. In the others, smallpox developed from the sixth to the seventh day and proved fatal.

Revue Mensuelle des Maladies de l'Enfance (Paris), March.

Alterations in Liver and Kidneys in Gastro-Enteritis. E. Lesné.—In acute cases of gastro-enteritis the liver and kidneys are attacked simultaneously by the toxins generated, and the liver yields after a period of hyperfunction. In subacute and chronic cases, the liver cells become gradually and progressively affected. As the liver fails to transform the poisons that reach it, they pass on with the products of the disintegration of the liver cells and are eliminated by the kidneys. This gradually entails degeneration of the renal parenchyma and allows but little urine to filter through. The urinary poisons are thus retained in the blood and affect in turn the liver and other tissues. The liver and kidneys have thus a reciprocal, injurious action on each other, which, with the superposed autointoxication, is the key to the syndrome characteristic of protracted gastro-enteritis in nurslings, and explains the slowness of recovery. Lesné succeeded in producing experimentally, by infection or intoxication with the colon bacillus, lesions in the kidneys and liver which closely resembled those observed in infants who had died from gastro-enteritis. If guinea-pigs, however, are fed with the intestinal contents from such cases, the animals become affected with a disease which closely resembles clinical gastro-enteritis, and presents the typical kidney and liver lesions. The pathogenesis of the disease is therefore probably complex, and the action of the colon bacillus is evidently re-enforced by other factors.

Semaine Medicale (Paris), March 13.

Pathogenesis and Treatment of Obesity. Debove.—If the surplus of food ingested, over what is actually required to sustain the body, were not consumed by oxidation and other processes to a certain extent, the body would keep on increasing in size indefinitely. The fact that this does not occur in normal conditions suggests that there must be some regulating apparatus which presides over the destruction of substances ingested in excess, and moderates combustion during periods of fasting, to maintain the nutritional balance. This regulating apparatus must belong to the nervous system and consequently its abnormal functioning, which permits the development of obesity, is a disturbance in the nervous system. The treatment of obesity should be based on this conception. The will should be cultivated to substitute the missing automatic regulating nervous apparatus. The amount of food taken should be less than the actual needs of the organism. The food should be restricted to articles which satisfy hunger without supplying many calories, such as raw or cooked vegetables, fruits, milk, etc. The patient should not eat at the table with the family, and sanitarium treatment is very desirable at first. Debove does not restrict the amount of fluids ingested, neither does he advise physical exercise. He finds that much exercise is liable to have an unfavorable effect by inducing an extra appetite. Thyroid treatment benefits obesity only in cases of latent myxedema, and he has known instances of fatal aggravation of existing heart troubles from its use. He has been remarkably successful in the treatment of obesity by the method outlined above—an unconsciously insufficient diet and training of the will-power. One of his cases was described in The Journal, April 7, 1900, p. 870, and another typical case is reported in detail in this communication, in which the weight decreased from 235 to 178 pounds in less than five months, with restoration of health and virility. It is useless, he adds, to treat patients who do not really want to be cured.

March 20.

Echinococcus Cysts of the Liver in Children. Broca.—Since 1892 Broca has operated on thirteen children to remove echinococcus cysts in the liver. From his experience he urgently warns against *puncturing*, either as a diagnostic or therapeutic measure. He remarks that every spherical tumor in the hypochondrium in children can be assumed to be a hydatid cyst. The hydatid fremitus is an inconstant sign. He noted it in one case which proved to have no daughter cysts and in which the sac was distended with fluid alone, and again in others packed with daughter cysts. An echinococcus cyst is probable when the liver is unusually large, uniform and slightly uneven at one or two points, the subcutaneous veins over it gorged, and especially, in case of emaciation. Spontaneous suppuration of the cyst is rare in children. Extreme precautions must be taken in operating. to prevent the escape of a single drop of the fluid into the tissues. Cases are numerous in which the cyst has been grafted elsewhere from neglect of this precaution. Until last year he treated these patients by fastening the pocket to the abdominal wall, i. e., by marsupialization, and his little patients all recovered except two cases in which the cysts were disseminated so extensively that there was no hope of a successful termination. This method has many advantages but it requires three to six months for complete recovery, and consequently he has recently adopted capitonnage, and is much pleased with the results. His last patient was a girl of 13. The cyst was the size of a fetal head. The lining membrane shelled out in one piece after the cyst had been emptied and wiped dry with compresses. The cavity was closed with three catgut stitches in the fibrous membrane, and the cyst wall with a Lembert suture. The temperature ranged between 38 and 39 C. for some time afterward, although the recovery was otherwise undisturbed except for an occasional tenderness on pressure of the region and slight pain in the right shoulder. As these symptoms, although attenuated, had not entirely ceased by the end of four months, Broca re-opened the abdomen. Not a trace of the cyst was to be found. The aspect of the liver was normal and nothing pathologic could be discovered except a few very insignificant filaments of adhesions between the liver and the abdominal wall. These were detached and the child regained complete health in a few days, with no further disturbances. Bouglé has recently published a case in which two cysts were treated simultaneously by capitonnage with excellent results. Whatever the method of treatment followed, it is possible that another cyst may develop later, and require a second operation as occurred in one of Broca's earliest cases.

March 27.

Acquired Lesions of the Aorta in Children. MARFAN.—Lesions of the aortic orifice and of the aorta are extremely rare in children. Marfan has recently had three cases at one time in his service, and study of their characteristics and analysis of others on record, show that there are two kinds of chronic, acquired lesions of this nature, the rheumatic and the atheromatous type. There are four varieties of the first group: 1. Pure aortic insufficiency, which seems to create less disturbance in children than in adults. 2. Aortic insufficiency associated with aortitis. The latter may be limited to the valve or may involve the inner coat of the artery or even be accompanied by cylindrical dilatation, indicated by a double souffle at the base. Sternal pains may be experienced but without distress or irradiation. The most frequent symptom is suffocation or paroxysms resembling those of asthma. There may be sudden dyspnea, with pallor and vomiting, but the paroxysm passes away in a few seconds. There is no true angina pectoris before puberty. Hemiplegia and aphasia may also occur as symptoms of embolism in the brain. 3. The lesions of the aorta are accompanied by a lesion of the mitral orifice. This is comparatively frequent and almost always grave. It usually causes extreme dyspnea and asystolia. 4. The aortic lesions are accompanied by pericardial adhesion with recurring asystolia. The atheromatous type is rare. Marfan reviews the seven cases on record. They include a case of aneurysm of the abdominal aorta in a fetus and one of ossification of the temporal artery in a child of fifteen months. In Sannés' case, atheroma of the aorta and valves was found at the autopsy of a boy of 13½, with an incipient aneurysm and insufficiency of the semilunar valves. The only symptom observed in one case of pure, isolated atheromatous aortitis was a neuralgia of the phrenic nerve, but as puberty approaches, this tolerance will probably cease. The lesion may lead to an actual aneurysm or become complicated by fatal asystolia. The treatment in the rheumatic group should be a vigorous salicylic medication. In the well-compensated cases all kinds of physical or mental fatigue should be avoided, also too frequent or too abundant meals and ingestion of much fluid. The seashore and water cures and an altitude above 1200 feet should be forbidden. The cardiac erethism should be soothed with opium and the alkaline bromids, and no digitalis should be administered. In the cases with asystolia and pericardial adhesion on the other hand, digitalis and its substitutes should be administered during the phases of asthenia. In case of aortitis this treatment should be supplemented by the iodids and repeated revulsion of the preaortic region.

Berliner Klinische Wochenschrift, March 11.

Treatment of Epithelioma with Arsenious Acid. O. LASSAR.—The three patients whom Lassar reported in 1893 as cured of epithelioma of the face, by means of Asiatic pills, he now states have had no recurrence since. One is 74 years of age. He took 1000 pills in all, a total of one gram of arsenious acid. Recent photographs accompany the communication.

Prognosis of Carcinoma of the Pylorus After Gastro-Enterostomy. H. STRAUSS.—The average life of patients with carcinoma of the pylorus is six to nine months after palliative operation. In the case described the patient survived 3½ years and succumbed to pneumonia. He was a man of 35, and at the operation a carcinoma was found the size of a small apple, with numerous metastatic nodules. After antecolic gastro-enterostomy he was relieved from all disturbance for nearly two years. Vomiting then occurred occasionally, but not enough to interfere with his duties as hotel-keeper. Symptoms of stenosis of the pylorus had been noticed before the operation for 1½ years, and hydrochloric acid was found uncombined in the stomach contents, suggesting that the carcinoma had been derived from an ulcer. In carcinomata of this character Strauss has been impressed with the number of the metastatic nodules in young patients, the free occurrence of uncombined hydrochloric acid or the large amount in combination, and also by the excellent digestion in spite of the lack of free acid. Erythrodextrin is always present and there is no lactic acid fermentation, notwithstanding the extreme stagnation. His experience also confirms Hampeln's assertion that an effusion in the left pleura is an aid to the diagnosis of carcinoma of the stomach. Three of his patients were under 25; the records of the Pathologic Institute show that in 9.5 per cent. of the 245 cases of carcinoma of the stomach the patients were less than 36 years of age, and in 21.2 per cent. less than 41 years old. In 411 cases of carcinoma elsewhere than in the stomach, 5.8 per cent. were under 36 and 12.4 per cent. under 41. Other statistics that have been published confirm this relative frequency of gastric carcinoma in persons under 36.

Dermatologisches Centralblatt (Berlin), February.

Pruritus and Tuberculosis. S. BEHRMANN.—When general pruritus can not be referred to any other cause, it is reasonable to suspect that it may be a manifestation of tuberculosis, due to the elimination of the toxic metabolic products of the tubercle bacillus through the skin. Proceeding on this assumption Behrmann has administered creosote internally and externally in cases of general pruritus, even in the absence of other visible tubercular manifestations, and reports encouraging success from it. He also calls attention to the residence as a possible factor in pruritus either by infection from germ-laden walls or floors. He knows of a house in his practice in which the tenants of the first floor invariably became affected with pneumonia and many of them with tuberculosis. He is inclined to attribute epidemic icterus to similar house or barracks contagion, and suggests that the dwelling should be investigated in all cases of otherwise inexplicable and rebellious pruritus.

Mitteilungen a. d. Grenzgeb. d. Med. und Chir. (Jena), vii, 4 and 5.

Experiences with Empyema. G. PERTHES.—For several years a Bunsen water-faucet pump has been used at the Leipsic clinic in the aspiration of the fluid of an empyema, in connection with a manometer and receiving jar. Twenty-five out of 32 patients have been treated in this way and the lesion healed in an average of forty-eight days. Twelve were recent cases and no fistula developed, but the healing was not complete for seventy-eight days on an average. Pneumococci were found in the pus in 6 and streptococci in 4 cases. The lung unfolded within a few days after the aspirating apparatus was applied, before the secretion had dried up. In diagnosing old cases, Perthes determines the size of a cavity by radiography or by measuring the amount of fluid it will hold. The only danger is in case of a fistulous opening into the bronchi. This can be surmised if the patient has expectorated a large amount of pus on separate occasions, or coughs when lying in a certain position. Blood in the sputa after thoracotomy also indicates a fistula. If coughing is induced when the cavity is filled with an aseptic fluid a fistula is probable and it is certain if a colored fluid is used and the stain is noticed in the sputa. Even in case of a fistula, if the inflow of fluid is arrested at the first coughing spell, Perthes does not consider the measure harmful. If the level of the fluid in the aspirating jar keeps falling, a fistula is also probable. It can be located by having the patient inhale cigarette smoke, and can be radiographed by passing a tube filled with mercury through it. Five of the old, chronic cases were completely cured, two much improved and another cured after a second operation for a recurrence. In one case the empyema dated from an abortion three months previously. The infection was due to the staphylococcus and the patient was cured in a month. In 4 of the 32 cases the lesion was evidently the result of embolism of the pulmonary artery. Pleuropulmonary fistulæ are not so rare, he thinks, as is generally accepted. A certain proportion are transient, as the fistula heals or becomes occluded by the pressure of the lung against the wall of the thorax. In one case an acute empyema persisted for seven months. The aspiration was continued for 243 days with two interruptions. The cavity was reduced in capacity from 2000 to 50 c.c. The general health remained good all the time, but whenever the aspiration was suspended, the lung retracted again.

Wiener Klinische Rundschau, March 10.

Carcinoma in Suprarenal Capsules without Symptoms. A. Schittenhelm.—There seems to be only one other case on record similar to the one described. An artisan, 55 years of age, had always been in good health until three months before his death. At the autopsy a medullary carcinoma was found in both suprarenal capsules, with metastases in numerous organs. There was no abnormal pigmentation of the skin, and no disturbances in the alimentary canal. The pulse was normal, and until five days before death, the cachexia and vague pains in the back, which had been noted for three months, were the only symptoms.

March 17.

Intoxication from Tin Chlorid in Stockings. A. Jolles.—A young woman noticed disturbances in motility and sensibility in the lower extremities, simultaneously with yellow stains on her feet after wearing a pair of fine, yellow, silk stockings. A few weeks later more intense disturbances were noted, approximating ataxia, corresponding to the wearing of the stockings, which were found to be heavily impregnated with tin chlorid. The urine showed albumoses, serum albumin and globulin in considerable amounts, and gave the tin reaction for two months after the stockings had been worn. The intoxication with tin had evidently increased the destruction of the red and white corpuscles. Jolles warns that silk, especially in light shades, should not be worn next the skin, as it is frequently impregnated with 25 per cent. of its weight with the tin chlorid to increase the "body" of the silk. The patient in question has recovered her health except for certain hysteric symptoms which still persist.

Therapeutische Monatshefte (Berlin), March.

External Application of Salicylic Acid in Grippal Affections. L. Bourget.—La grippe seems to have a predilection for the mucous membranes, similar to that of rheumatism for the serous membranes. Bourget has been very successful in treating rheumatism by the application of salicylic acid rubbed into the skin, and he now reports that the same method is equally applicable to the treatment of grippal affections. The liniment is rubbed into the chest and back, and then the patient is covered closely to the chin. The heat of the bed favors absorption and evaporation, and the patient is instructed to inhale the fumes occasionally. The salicylic acid appears in the urine in twenty to thirty minutes. The formula is: salicylic acid, 4 parts; methyl salicylate, 10; oil of eucalyptus and oil of nutmeg, each 5; oil of sage, 3; camphorated oil, 30; spirit of juniper, 120. He has been so successful with this treatment that he now applies it as a routine measure in all affections of the respiratory organs a few hours after the patient enters the hospital.

Importance of Carbon Dioxid in the Treatment of Tuberculosis. H. Weber.—Fifty-two cases of advanced tuberculosis have been treated by Weber on a new principle, and the results have been so encouraging that he now describes it for the benefit of others. It is based on the principle that a tubercular process can not progress in the presence of much carbon dioxid, as there seems to be an antagonism between tuberculosis and the dioxid. Consequently if the formation of carbon dioxid in the organism can be multiplied, the tubercular process will be checked in its development. After numerous tests Weber found that levulose is a substance which materially enhances the production of carbon dioxid. He orders it in the daily dose of 50 to 100 gm. a day, which can be ingested for months without injury, in the form of an inexpensive syrup. In certain cases he supplements the levulose with a specially prepared fluid paraffin, which he calls "antiphthisicum," and injects 10 gr. once or twice a day. He affirms that in this principle of inducing an extra formation of carbon dioxid in the organism, we have a means of conquering tuberculosis as certain in its effects as salicylic acid is in rheumatism. Out of his 52 patients, 32 were cured, 14 much improved and 6 died.

Gazetta Degli Ospedali (Milan), March 24.

Round Ulcer of the Stomach and Hysteria. G. Bigi.—Round ulcer of the stomach is pre-eminently a dystrophic affection. Hysteria is a general pathologic process which is capable of producing trophic disturbances, multiple or localized in the skin or in an internal organ. Bigi describes a case in which he witnessed the development of a round ulcer in a person predisposed to hysteria. The hemorrhages that occur under the vasomotor influence of hysteria are liable to appear in the gastric mucosa as well as elsewhere. Such lesions on the skin have a tendency to necrobiosis and probably the same tendency exists in a gastric lesion. The gastric juice then interferes to maintain the lesion as a permanent ulcer. Consequently, when a hysteric subject exhibits evidences of gastric disturbance, pain, vomiting and hematesis, treatment is indicated that will prevent the transformation of the lesion into an ulcer.

Semana Medica (Buenos Ayres), February 21.

Tuberculosis in the Argentine Republic. E. R. Coni.—The deaths from tuberculosis have diminished from 12.2 per cent. between 1868 and 1878 to 10 per cent. during the last decade. Coni, who is chief of the National Board of Health, attributes this favorable showing in regard to tuberculosis to the mild, equable climate in the more populated portions, which resembles that of the shores of the Mediterranean; to the small number of inhabitants in proportion to the extent of the country, to the absence of tuberculosis among the native cattle and to the fact that as meat is so cheap it is the main article of diet among the poorer classes. The crossing of races in the republic, he adds, has originated a new race, exceptionally vigorous, whose development is favored by the conditions of climate, life and hygienic dwellings. Alcoholism is not so prevalent as in other countries in Europe and America.

New Patents.

Patents of interest to physicians, etc., March 19 and 26:

670,394. Vaginal syringe. Elizabeth C. Ashmead, Philadelphia, Pa.

669,976. Uterine drainage tube. James J. Bowker, Laotto, Ind.

670,199. Massage apparatus. Johannes Eckardt, Sr., Stuttgart, Germany.

670,372. Producing casein products. John A. Justs, Syracuse, N. Y.

670,237. Means for humidifying the air of rooms. Paul Kestner, Lille, France.

670,006. Electric exercising machine. Nelson H. Raymond, Buffalo, N. Y.
670,084. Inhaler. John B. Sloane, Detroit, Mich.
34,238. Design, inhaler. Elmore J. Worst, Ashland, Ohio.
670,530. Hernial truss support. Wm. F. Brownell, New London, Wis.
670,663. Combined hydrometer and syringe. Theodore D. Bunce, New York City.
670,706. Exercising machine. Emil R. Ernst, New York City.
670,494. Atomizer. Charles H. Guibor, Topeka, Kan.
670,878. Water bag. Daniel Hogan, New York City and C. W. Meinecke, Jersey City, N. J.
670,428. Suspensory bandage. James R. Jarrell, Smyrna, Del.
670,713. Antiseptic broom. Oscar S. Kulman, Savannah, Ga.
670,792. Soda fountain. Fisher H. Lippincott, Philadelphia, Pa.
670,793. Soda fountain. Fisher H. Lippincott, Philadelphia, Pa.
670,684. Artificial hand. Albert C. Mueller, Wausau, Wis.
670,814. Abdominal bandage. Emma A. Richmond, Medford, Mass.
670,688. Massage apparatus. Joseph A. Riviere, Paris, France.
670,545. Portable steam or vapor bath apparatus. Moses Rostovsky, San Francisco, Cal.
670,689. Waterproof casein and producing same. Albrecht Schmidt, Berlin, Germany.
34,275. Design, knee member for artificial legs. Geo. W. Farrier, Milwaukee, Wis.
34,274. Design, water-bag. Christian W. Meinecke, Jersey City, N. J.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., March 28 to April 3, 1901, inclusive:

Ira A. Allen, captain and asst.-surgeon, Vols., recently appointed, from duty at the Army and Navy General Hospital, Hot Springs, Ark., to San Francisco, Cal., en route to Manila, P. I., for service in the Division of the Philippines.

Aaron H. Appel, major and surgeon, U. S. A., from Jackson Barracks, La., to San Francisco, Cal., en route to the Division of the Philippines.

Guy G. Bailey, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to duty in the Division of the Philippines.

Charles N. Barney, acting asst.-surgeon, member of a board at Fort Monroe, Va., to examine enlisted men for commissions.

William Bowen, major and surgeon, Vols., recently appointed and now in San Francisco, Cal., to proceed to Manila, P. I., for duty in the Division of the Philippines.

Frederick A. W. Conn, captain and asst.-surgeon, Vols., recently appointed, from Philadelphia, Pa., to the Division of the Philippines, via San Francisco, Cal.

George W. Daywalt, captain and asst.-surgeon, Vols., recently appointed, and now in San Francisco, Cal., to duty in the Division of the Philippines.

Henry C. Fisher, major and surgeon, Vols. (captain and asst.-surgeon, U. S. A.), from the Division of the Philippines to duty at Jackson Barracks, La.

Henry L. Gilchrist, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., reporting by telegraph, on his arrival, to the Adjutant-General of the Army for further orders.

Charles R. Gill, captain and asst.-surgeon, Vols., recently appointed, from Fort Wood to Fort Totten, N. Y., to accompany a battalion of engineers to Manila, P. I., via San Francisco, Cal., and for assignment in the Division of the Philippines.

Frederick Hadra, major and surgeon, Vols., recently appointed, and now in San Francisco, to proceed to Manila, P. I., for assignment.

Frederick M. Hartsock, lieutenant and asst.-surgeon, U. S. A., from Fort Warren, Mass., to San Francisco, Cal., en route to the Division of the Philippines.

Edward F. Horr, captain and asst.-surgeon, Vols., recently appointed, from Manzanillo, Cuba, as soon as his services can be spared from the Department of Cuba, to San Francisco, Cal., en route for service in the Division of the Philippines.

Francis J. Ives, major and surgeon, U. S. A., relieved from further duty with the United States forces in China to proceed to Fort Sheridan, Ill., for post duty.

Frederick C. Jackson, captain and asst.-surgeon, Vols., recently appointed, and now in San Francisco, Cal., to proceed to Manila, P. I., for duty in the Division of the Philippines.

Thomas W. Jackson, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to proceed to Manila, P. I., for assignment.

N. M. James, acting asst.-surgeon, leave of absence from the Department of Cuba extended.

William F. James, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to proceed to Manila, P. I., for assignment.

Henry Lippincott, lieut.-col., deputy surgeon-general, U. S. A., from Denver, Colo., to Governor's Island, N. Y., for duty as chief surgeon, Department of the East.

Paul H. Luddington, acting asst.-surgeon, from duty on the transport, *Kilpatrick*, to Omaha, Neb., for annulment of contract.

George W. Mathews, major and surgeon, Vols., (lieutenant and asst.-surgeon, U. S. A.), from the Division of the Philippines to duty at Fort Warren, Mass.

Edward B. Moseley, major and surgeon, U. S. A., former orders assigning him to duty at Fort Sheridan, Ill., revoked; on expiration of his present leave of absence he will proceed to Denver, Colo., for duty as chief surgeon, Department of the Colorado.

Edward L. Munson, captain and asst.-surgeon, U. S. A., from duty at Washington Barracks, D. C., to Buffalo, N. Y., to assume charge of the exhibit of the Medical Department of the Army at the Pan-American Exposition to be held there.

Robert M. O'Reilly, lieut.-col., deputy surgeon-general, U. S. A., member of a board at Fort Monroe, Va., to examine enlisted men candidates for commission as second lieutenants in the army.

Francis J. Pursell, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to proceed to the Division of the Philippines for assignment.

Julius M. Wheate, captain and asst.-surgeon, Vols., recently appointed, to proceed, on expiration of his present leave of absence, to San Francisco, Cal., en route for service in the Division of the Philippines.

Francis A. Winter, major and surgeon, 37th U. S. Vol. Infantry (captain and asst.-surgeon, U. S. A.), from the Division of the Philippines to San Francisco, Cal., where he will report to the Adjutant-General of the Army for instructions.

W. Hoepfner Winterberg, captain and asst.-surgeon, Vols., recently appointed from Fort Mason to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended April 6, 1901:

Dr. A. E. Peck, appointed asst.-surgeon from March 24, 1901.

Medical Director W. K. Scofield, placed on retired list, April 28, 1901.

Surgeon G. Pickrell, granted sick leave for three months, from April 2.

Asst.-Surgeon E. M. Blackwell, detached from *Abarenda,* upon reporting of relief, and home to wait orders.

Asst.-Surgeon R. C. Marcour, detached from Havana Naval Station and ordered to *Abarenda* after temporary duty on *Philadelphia,* May 4.

Asst.-Surgeon E. Davis, granted sick leave for three months.

Medical Director G. F. Winslow, detached from Boston Navy Yard, April 18, and ordered home to wait orders.

Medical Director E. Bogert, retired, ordered to the Boston Navy Yard, April 18th.

P. A. Surgeon E. R. Stitt, commissioned Surgeon from June 7, 1900.

Pharmacist J. Cowan, detached from *Glacier* and ordered to the *Manila* and to additional duty at the Naval Hospital, Cavite.

Surgeon G. F. Stokes, detached from the *New Orleans* and ordered to the *Solace* upon her arrival on the Asiatic Station.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended April 6, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

California: Los Angeles, March 16-23, 3 cases; San Francisco, March 16-23, 10 cases.
Delaware: Seaford, March 20, 53 cases.
District of Columbia: Washington, March 23-30, 8 cases.
Florida: Jacksonville, March 23-30, 7 cases.
Illinois: Chicago, March 23-30, 13 cases.
Indiana: Muncie, March 1-31, 23 cases.
Iowa: Clinton, March 23-30, 1 case.
Kansas: Wichita, March 23-30, 14 cases.
Kentucky: Lexington, March 23-30, 3 cases.
New Jersey: Jersey City, March 23-31, 5 cases.
New York: New York, March 23-30, 41 cases, 10 deaths.
Ohio: Ashtabula, March 23-30, 1 case; Cincinnati, March 22-29, 4 cases; Cleveland, March 23-30, 42 cases, 1 death.
Pennsylvania: March 23-30, McKeesport, 4 cases; Pittsburg, 2 cases, 1 death; Steelton, 3 cases.
Tennessee: March 23-30, Memphis, 24 cases; Nashville, 11 cases.
Utah: Salt Lake City, March 23-30, 33 cases, 2 deaths.
Louisiana: New Orleans, March 23-30, 13 cases, 2 deaths.
Maine: Portland, March 23-30, 1 case.
Massachusetts: Boston, March 23-30, 1 case; Springfield, March 16-23, 1 case.
Michigan: March 23-30, Bay City, 3 cases; Detroit, 4 cases; Grand Rapids, 1 case.
Minnesota: March 23-30, Minneapolis, 11 cases; Winona, 4 cases.
Nebraska: Omaha, March 23-30, 9 cases.
New Hampshire: Manchester, March 23-30, 3 cases.
West Virginia: Wheeling, March 23-30, 3 cases.
Wisconsin: Milwaukee, March 23-30, 2 cases.
Porto Rico: Ponce, March 18, 4 cases.

SMALLPOX—FOREIGN.

Austria: Prague, March 2-9, 7 cases.
Belgium: Ghent, March 8-16, 1 death.
Brazil: Rio de Janeiro, Feb. 1-15, 6 deaths.
China: Hongkong, Feb. 9-16, 1 case, 1 death.
France: Paris, March 8-16, 11 deaths; Rheims, March 3-10, 1 death.
Great Britain: England—London, March 14-21, 1 case; Southampton, March 8-16, 1 case. Scotland—Glasgow, March 16-22 24 deaths.
Greece: Athens, March 3-10, 4 cases, 1 death.
India; Bombay, Feb. 26-March 5, 7 deaths; Calcutta, Feb. 23-March 2, 113 deaths; Karachi, Feb. 24-March 3, 26 cases, 5 deaths; Madras, Feb. 23-March 1, 6 deaths.
Italy, Naples, March 13, general.
Mexico: Progreso, March 1-15, 20 cases.
Russia: Moscow, March 2-9, 11 cases, 3 deaths; St. Petersburg, March 9-16, 10 cases, 2 deaths; Warsaw, March 1-8, 3 deaths.
Spain: Malaga, March 1-15, 2 deaths; Valencia, March 1-14, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, Feb. 1-15, 22 deaths.

CHOLERA.

India: Bombay, Feb. 26-March 5, 13 deaths; Calcutta, Feb. 23-March 2, 24 deaths; Madras, Feb. 23-March 1, 4 deaths.

PLAGUE.

Brazil: Rio de Janeiro, Feb. 1-15, 5 cases 3 deaths.
China: Hongkong, Feb. 2-16, 5 cases, 5 deaths.
India: Bombay, Feb. 26-March 5, 1253 deaths; Calcutta, Feb. 23-March 2, 405 deaths; Karachi, Feb. 11-March 3, 113 cases, 82 deaths; Madras, Feb. 23-March 1, 1 death.

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Original Articles.

NOTES ON ADRENALIN AND ADRENALIN CHLORID.*

E. FLETCHER INGALS, M.D.

CHICAGO.

During the first week of January, a well-known manufacturing house sent me some of the active principle extracted from suprarenal glands, in powder known as adrenalin, and in several solutions varying from 1 to 1000 to 1 to 10,000 of the chlorid of adrenalin in distilled water or in normal salt solution. I experimented with this on numerous cases, and kept careful records until I became satisfied of its activity. In Cases 1, 2, 3, 4, 6, 9, 11, 12 and 17, I applied a very small quantity of a spray of one part of chlorid of adrenalin to 10,000 parts of water to the nasal cavities, with the effect of blanching the mucous membrane quickly, and in most cases of causing contraction of the swollen tissues in the same way that they are contracted by applications of cocain. The first solution that I used was made with distilled water, and in Cases 2, 3, 4 and 9, it caused smarting, which in one case was intense. I wrote to the firm about this, and they suggested that I employ, instead, the solution of adrenalin in normal salt solution. After using this there was no more smarting excepting in two or three instances where I was led to believe that a little formalin remained on the end of the atomizer, which had been washed in a strong solution of formalin after being used in another case; indeed, the smarting in some of the previous cases may have been due to this cause, for it is my custom always, after using an atomizer, to wash it thoroughly, then dip it in a strong solution of formalin and put it away without wiping.

Dr. S. A. Friedberg, one of my assistants, used the same solution in several cases, and reported that he thought its effects were considerably less than those obtained from a solution made by macerating and filtering 30 grains of the desiccated adrenals to the ounce of water. This preparation I have used with much satisfaction for a couple of years. It is fairly stable, lasting from two to four months without material change. The formula is as follows: Adrenals, ʒi; boric acid, grs. xvi; aqua cinnamomi, ʒiv; aqua camphoræ (hot), ℥i; glycerin, ʒi; aqua dist. (hot), q. s. ad ℥ii.

In Cases 5, 7, 8, 10, 13, 15, 26 and 27, I used a powder containing 1.5 per cent. each of biborate of soda and bicarbonate of soda and 3 per cent. of the light carbonate of magnesia with one part of adrenalin to 5000 of sugar-of-milk. I found that when the nasal cavities were stopped by swelling of the turbinated bodies, this powder cleared them out quickly, and in most instances they remained open for a considerable length of time, but in Cases 7, 26 and 27 the nose stopped up again within a few minutes, whereas, when sprayed with the solution made with 30 grains of the desiccated adrenal glands to the ounce of water, it would remain open for several hours. In Case 15, it was found that the powder, which was used daily for about three weeks, would usually open the nose quickly, and this would remain for several hours, but it seemed to cause some insomnia. I have used a similar powder mixed in various proportions with mildly astringent or antiseptic powders, in several nasal cases, with the effect of opening the nares when obstructed by swelling, and diminishing the secretions decidedly.

In Case 28 the patient had suffered from epistaxis almost daily for several weeks. I gave her a solution of adrenalin, 1 to 10,000 parts of water, to be used as a spray three or four times daily. As the result, she has had no nose bleed for over three weeks.

In Cases 29 and 30 I used the solution of adrenalin with 8 grains of boric acid to 5000 parts of water, as a spray in the nasal cavities, with the effect of opening the cavities immediately, when they were closed by swelling, and keeping them free for several hours. I have used the same spray in several other similar cases with good results, but did not keep accurate memoranda.

In Case 14—a patient who was under my care for nasal trouble—the conjunctiva became very much congested from over-use of the eyes. I gave him a solution of one part of the adrenalin to 10,000 parts of normal salt solution. This was dropped into the eye with the effect of blanching it completely within three or four minutes. At the end of five hours the congestion was about three-quarters as bad as it had been before; more of the solution was dropped in with the same effect as previously. The pupil was not at all affected. The disagreeable feeling of the eyes immediately disappeared. One hour later congestion was about one-half as bad as it had been when the solution was first dropped in. Another application was made with the effect of blanching it promptly. In this case the remedy was used several times afterward, and the conjunctivitis speedily disappeared, the patient in the meantime being able to use his eyes with little discomfort. There was no smarting from this application.

In Case 19 there was congestion and swelling of the conjunctiva and lids, such as the same patient had experienced several times in the beginning of attacks of hay-fever. In this case one or two drops of the 1 to 5000 solution of adrenalin in normal salt solution were employed, with the effect of removing the congestion in two or three minutes. About three hours later the congestion had reappeared and another application was made, blanching it at once. The swelling of the lower lid was also considerably reduced by these two applications. The uncomfortable smarting sensation, which was associated with the congestion and swelling, was relieved within a very few minutes after the application. About four hours after the second application the congestion began to reappear and another application was made in the evening. The next morning there was still a little redness and swelling of the lower lid, but no congestion nor swelling of the conjunctiva. A couple of applications were made this day and by night the conditions were normal.

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* Read before the Chicago Laryngological and Climatological Society, Feb. 28, 1901.

In Case 20 a small amount of formalin was accidentally sprayed into the eye with the atomizer, which contained one part of adrenalin to 10,000 parts of normal salt solution; very great smarting and intense congestion speedily followed, but was relieved in three or four minutes by dropping into the eye 2 or 3 minims of a 1 to 10,000 normal salt solution. About six hours later the eye again felt badly and I applied to it a minim of 1 part in 5000 normal salt solution; blanching occurred in a minute. The next morning the eye was still somewhat congested, though much improved, and the inflammation was practically aborted, though the solution was applied two or three times during that day, and the eye was then perfectly well.

Case 16 showed congestion of the upper part of the larynx—above the cords—of about 25 per cent. I applied a solution of 1 to 10,000; this reduced the congestion about one-tenth within three minutes.

In Case 22 I applied a similar solution once to a congested larynx and reduced the congestion about three-quarters.

In Case 23—chronic laryngitis with a congestion of about 20 per cent.—I applied a 1 to 10,000 in normal salt solution two or three times. In the course of five minutes the congestion had been considerably reduced, but the throat had closed so that it could not be applied very thoroughly to every part, and only the parts actually touched by the spray were found to be blanched, while those it had not touched were of the same degree of congestion as before. From the parts that had been touched, about one-half of the congestion had been removed. In several other cases it was noted that the blanching process did not extend at all beyond the part actually touched.

Case 18, acute laryngitis with edema of the glottis, occurred in a patient of Dr. O. T. Freer, whom he referred to me at the Presbyterian Hospital. There was great swelling and redness of the epiglottis, with difficult respiration which seemed likely to necessitate a speedy tracheotomy. I directed the interne, Dr. Smith, to apply to the larynx, every three or four hours, a spray of one part of adrenalin to 10,000 normal salt solution. This was done with the effect of giving the patient speedy relief. He said that he felt as though the parts had been contracted. In addition to this treatment the patient was given ¼ gr. of nitrate of pilocarpin, which caused free salivation and profuse sweating. This was repeated twice a day for two days, therefore we can not tell just what the influence of the adrenal was; however, its immediate effects were good, as demonstrated several times. The patient made a speedy recovery.

In Case 25 the fauces were congested about 20 per cent., and I applied a spray of 1 to 10,000, but at the end of five minutes the blanching was hardly perceptible.

In Case 24, one of acute coryza, the nose was sprayed four or five times with a 1 to 10,000 normal salt solution, resulting in a speedy cure.

In Case 26, chronic laryngotracheitis with acute exacerbation, the cords were congested about 25 per cent. In this case I applied a 1 to 1000 in normal salt solution, which speedily reduced the congestion about three-fifths. The patient said he felt a drawing or astringent sensation in the throat; there was no smarting, and he seemed decidedly improved. The throat felt very much better for the next eighteen hours. A few hours later, when I saw him, the congestion appeared about as great as on the previous day. I made the same application again, with an air-pressure of about 40 pounds, but after waiting several minutes I found that there was no apparent blanching of the mucous membrane, and the patient did not feel the astringent or drawing sensations which he had noticed the day previously. Concluding that the failure arose from using too great force, I made two applications of the same solution, with 15 pounds of pressure about five minutes apart, and five minutes afterward found that at least four-fifths of the congestion had been removed. The patient said that the larynx felt very much better.

In Case 31, of subacute laryngitis with marked congestion, I applied a solution of 1 to 5000 in normal salt solution containing also 8 grains of boric acid to the ounce. It gave the patient very great relief, and for several hours he found his voice much better. The next day the larynx was much improved and a similar application was made. The following day he was practically well.

I have used this solution several times in preparing for operations in the nose, and have found that 1 to 5000 acts with about the same rapidity and intensity as the solution made with 30 grains of the desiccated adrenal glands to an ounce of water. In solutions of 1 to 5000 in normal salt solution, which were opened frequently, I found that a fungus formed at the bottom within a few days, but this has not yet appeared at the end of several weeks, in solutions made with 1 part of adrenalin to 5000 of liquid containing 8 grains of boric acid, 2 drams of cinnamon water, 2 drams of camphor water and 4 drams of distilled water. From the experiments thus far made, I am satisfied that this remedy will be of great value in the treatment of acute inflammatory affections of the nasal cavities either in sprays of about 1 to 5000, or in powders of from 1 to 5000 to 1 to 2500 of sugar-of-milk. These may be used several times daily, and we may confidently expect that in the majority of cases they will promptly remove the congestion and swelling, and that they will keep down the swelling for two or three hours or more. In acute coryza and in hay-fever, I have reason to believe we will get great relief from a solution of gr. 1/10 of adrenalin chlorid in camphor water or in equal parts of camphor water and distilled water with about 8 gr. of boric acid to the ounce. In epistaxis from various causes, a similar solution used several times a day will undoubtedly be productive of very great benefit, and in many cases it will speedily effect a cure. In acute inflammation of the fauces, it is probable that solutions of 1 to 1000 would have good effects, but the weaker solutions, such as were used in the nares, are of little value. In acute and subacute rhinopharyngitis, from the experience already obtained, I have reason to believe that great benefit will be found from using a spray of 1 to 5000 four or five times a day. In several cases in which I have already used this remedy in chronic rhinitis, the secretions have been markedly checked, though I can not tell what the result will be. In acute or subacute laryngitis, I believe that a solution of 1 to 1000, applied with moderate force, will give very great relief, and it appears to me probable that, when applied to acutely congested cords, in vocalists, it will reduce the swelling and congestion so thoroughly that the voice may be used for two or three hours with comparative ease, and possibly with normal efficiency.

HYPOSPADIAS.

C. H. MAYO, M.D.
SURGEON TO ST. MARY'S HOSPITAL.
ROCHESTER, MINN.

Hypospadias of some degree is one of the most common malformations of man. According to Rennes, Kaufman and others this deformity occurs in one of every 350 males.

There are several theories as to the cause of this condition. Some claim that from atresia of the urethra there is fetal retention of urine and finally a giving way of the urethra, or that the same result is caused by a delay in the development of the glandular urethra. The most probable is that of Reichel, who states that hypospadias is merely an arrest of development and the degree of deformity is an indication of the period of intrauterine life at which it occurred. Perineal openings develop in the sixth or seventh and glandular from the twelfth to the sixteenth week.

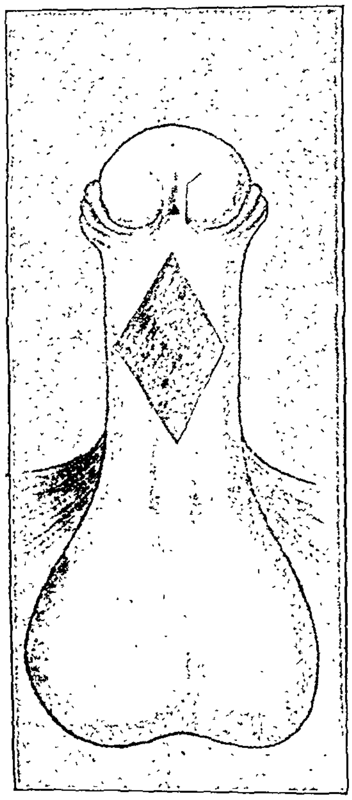

Fig. 1.—Duplay and Bouisson.

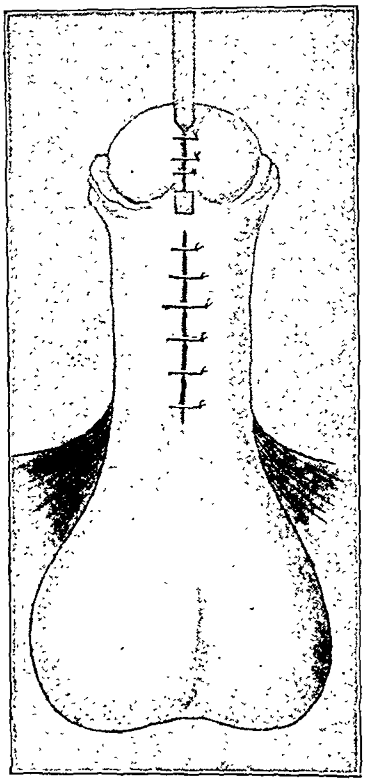

Fig. 2.—Duplay and Bouisson.

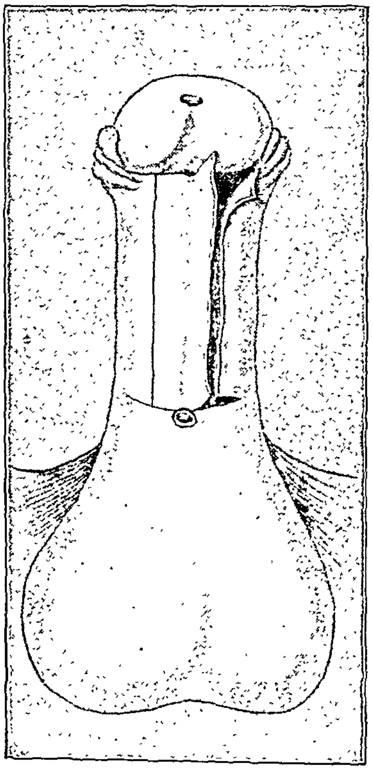

Fig. 3.—Duplay.

① The more common variety is the glandular or balanic, in which the urethral opening is situated back of a broad, flattened and curved glans, the frenum being absent. ② The penile type of hypospadias opens at some point between the scrotum and glandis corona. ③ The scrotal variety is presented by those cases with the urethral opening at the junction of the penis and scrotum, called peno-scrotal or in ④ the extreme cases perineo-scrotal in which the scrotum is divided.

There is no malformation which may be the cause of more mental suffering and physical discomfort than *the one* under consideration, the trouble being none the less from its secret nature. A limited number have some degree of incontinence and many are compelled to pass the urine in a sitting posture from the difficulty of directing the stream. In many cases the urethral opening is so small that there is difficulty in evacuating the bladder. The penis, from imperfect development of the corpus spongiosum, may be deformed, curving downward and at times adherent to the scrotum, perfect erections or coitus being impossible; and the majority of even the balanic type of cases are sexually impotent. It is a matter of interest in this connection that several aboriginal tribes of Africa and Australia make a fistula or slit in the urethra to prevent impregnation.

Operations.—There are several methods of operation for the relief of hypospadias, which Van Hook classifies according to the principles involved: 1. The method of simple canalization. 2. That by denudation and suture. 3. That by the use of penile flaps. 4. That by taking flaps from the abdomen or scrotum. 5. That by the combination of these fundamental methods. To these must be added a sixth: That by mobilization and dislocation of the urethra.

The operation of Dieffenbach, first made in 1838, consisted in piercing the glans penis from its summit to the normal urethra, and allowing a canula to remain in position until the canal became lined with epithelium, the previous opening of the urethra being closed. This operation was abandoned from the difficulty of maintaining the lumen of the canal when formed. Dieffenbach was also a pioneer in the operation by denudation and suture. The flap operation of Duplay has until recently been the one most commonly employed. The first step was Bouisson's principle (Fig. 1), to straighten the penis by transverse incision at the point of greatest curvature and, after straightening the organ, to close the lozenge-shaped defects by skin grafts or sliding flaps. (Fig. 2.) The age of choice for this operation is 4 years.

The second step is the formation of the new urethra over a catheter to a point in front of the hypospadic opening. This is done by an incision on each side of the urethral groove, leaving a strip about one-half an inch wide which is dissected one-fourth its breadth toward the median line from each side and folded over the catheter. (Fig. 3.) Transverse incisions are made

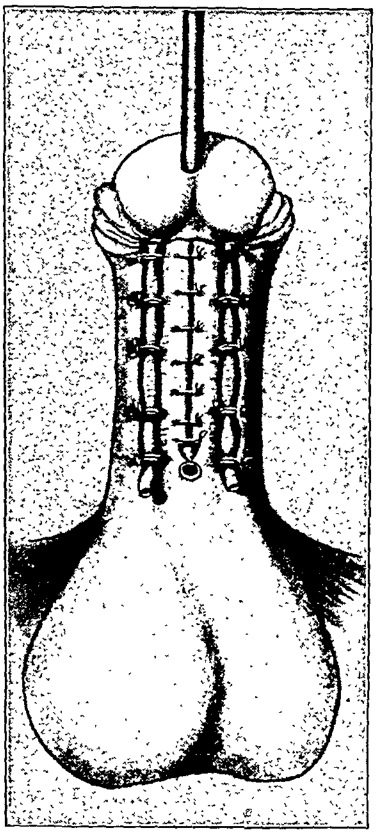

Fig. 4.—Duplay and Thiersch.

at the ends of the urethral incisions and the outer flaps dissected freely and closed over the catheter and new urethra by quill suture and accurate coaptation of the skin margins. (Fig. 4.) The lateral flaps were

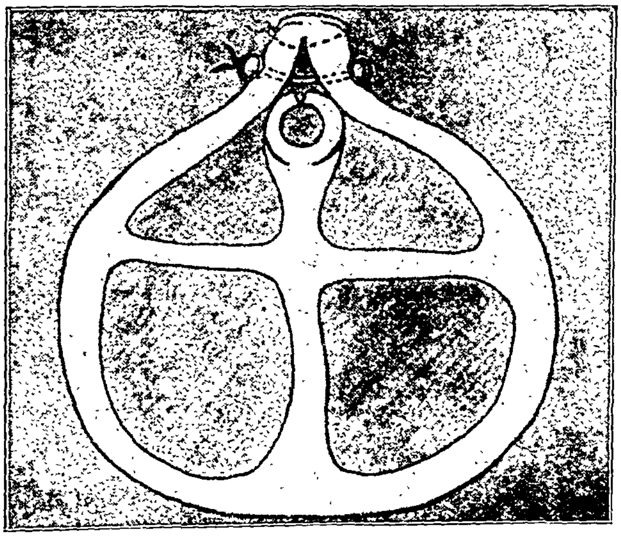

Fig. 5.—Duplay and Thiersch.

devised by Thiersch, Duplay making use of a flap of prepuce to cover the defect and new urethra. The glandular urethra is often constructed at the first operation. The age of choice being 5 or 6 years. (Fig. 5.)

The third step is the union of the two urethras, done by freshening the openings and accurate suturing; this operation is best made at the age of puberty, to secure the aid of the patient in after care. Thiersch devised the method of double penile skin flaps, the base of one being near the urethral groove, the other on the opposite of the penis. (Fig. 6.) Flaps are dissected up and one turned skin side in, to form the urethra, the other drawn over the urethra and sutured to the opposite side of the penis. (Fig. 7.) Thiersch also deserves credit for temporarily deflecting the urine by a button-hole in the perineal urethra, which he used in epispadias.

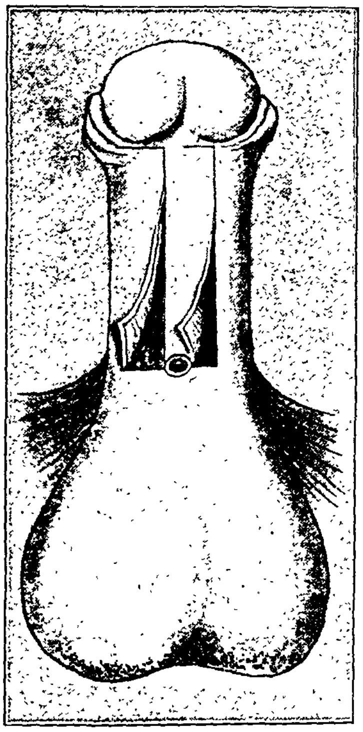

Fig. 6.—Thiersch.

In the Wood method (Fig. 8), a large button-hole is made in the center of the prepuce near its attachment, and the glans drawn through the opening, leaving the prepuce underneath the glans. A skin flap with its base close to the urethral opening is turned up from the scrotum. (Fig. 9.) Two narrow strips are denuded from either side of the urethral groove and the scrotal flap sutured to these. The scrotal defect is closed by

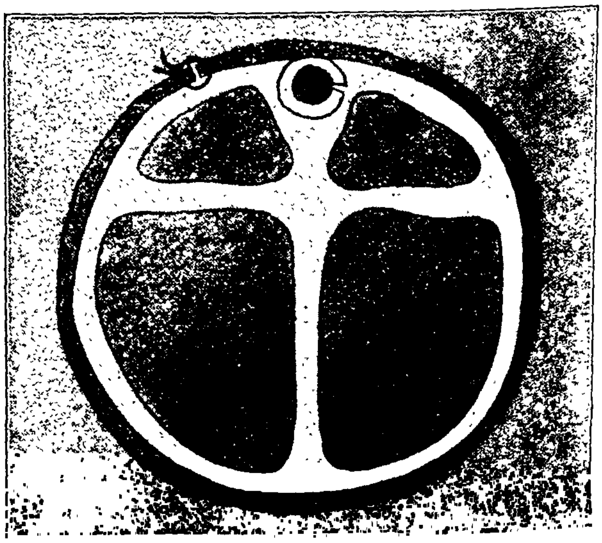

Fig. 7.—Thiersch.

sutures and the flap is covered by the prepuce which is unfolded for this purpose.

Beck, in his peno-scrotal cases, utilizes the Duplay method (Figs. 10 and 11) and covers the new urethra with a scrotal flap like the Wood operation by twisting the pedicle to turn the skin surface out. (Fig. 12.)

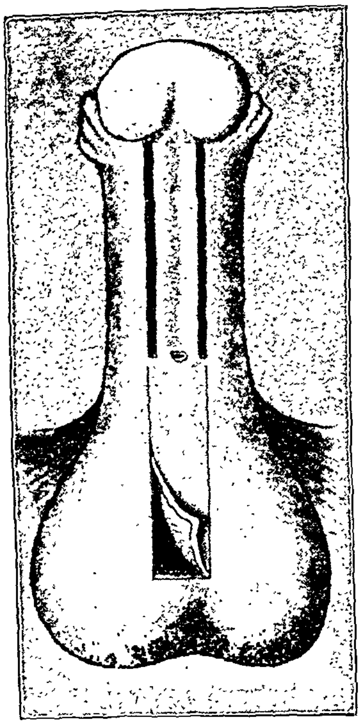

Fig. 8.—Wood

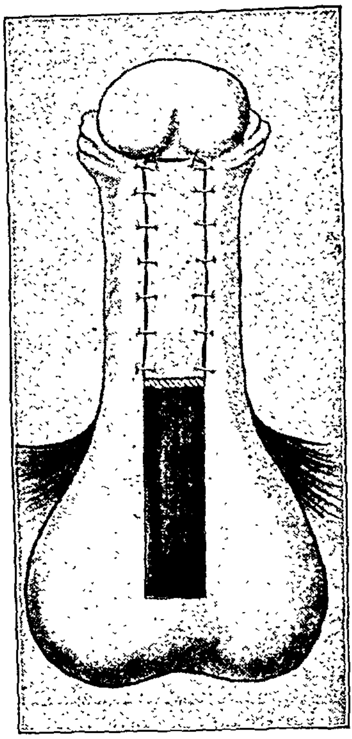

Fig 9.—Wood.

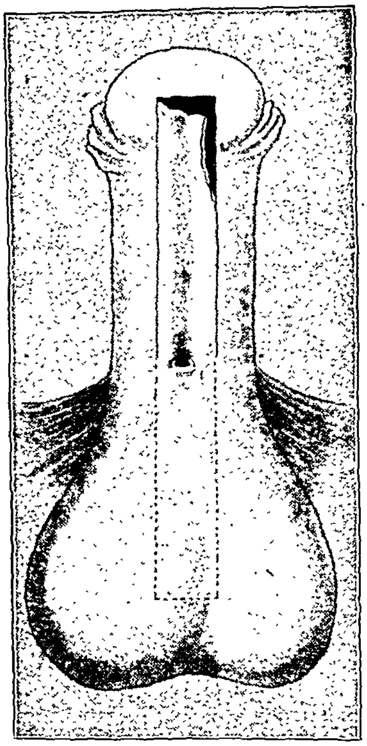

Fig 10.—Duplay, Wood and Beck.

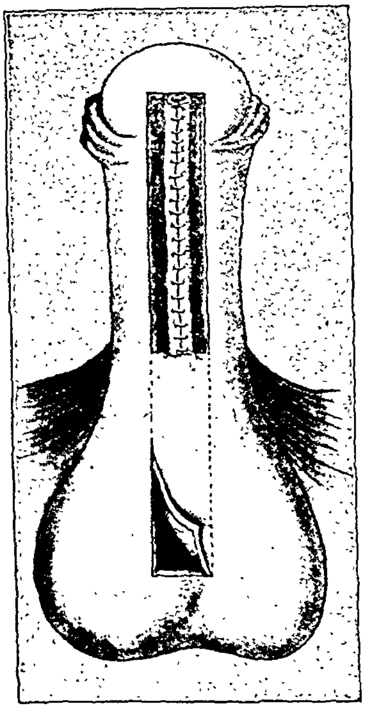

Fig. 11.—Duplay and Beck.

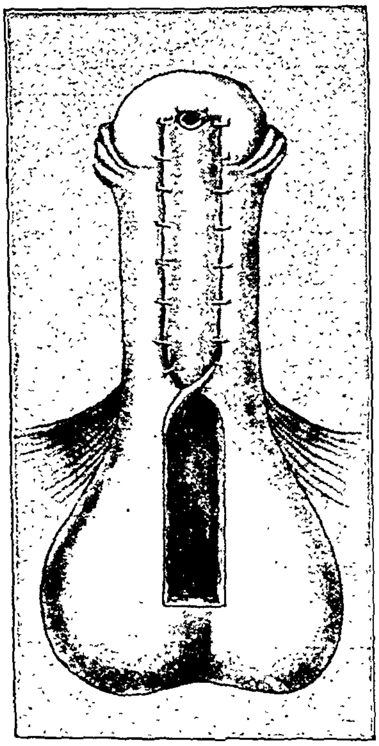

Fig. 12.—Beck.

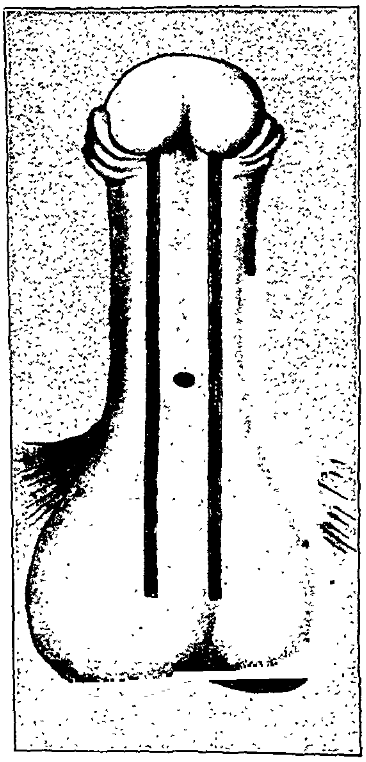

Fig. 13.—Rosenberger, Landerer and Bidder.

Rosenberger's operation for epispadias is made by incisions and denuding strips each side of the urethra, which are continuous with and sutured to similar denuded surfaces upon the abdomen, and later the organ with attached skin is separated from the abdomen and the denuded skin grafted. This method was so commonly successful that the principle was utilized in hypospadias by Landerer and Bidder, who denuded strips on the under side of the penis (Fig. 13) and sutured to incisions in the scrotum (Fig. 14), then, when healing was firm, dissection of the penis with its new canal from the scrotum and skin grafting or turning the skin margins over the defects in surface covering. This operation leaves considerable deformity, but has fewer failures than many of the earlier ones.

Causes of Failures.—There are several causes of the frequent failures experienced by all operators in this class of surgery. The field of operation is difficult to render sterile. Flaps are made too small and closed under tension; dressings become soaked with urine.

The bladder is drained by a catheter fixed in the canal and, after the third day, there is the straining of an irritable bladder which frequently expels the catheter, or forces out urine along side of the instrument. Frequent erections are also a cause of much discomfort. In a considerable number of hypospadiac cases operated on in Czerny's clinic, about 35 per cent. of them were uncured from the patients' lack of persistence in having repeated operations, and 29 per cent. of the operations were failures from failures of previous operations, not counting cases healed with minute fistulæ requiring cautery or caustic for their closure. Dr. Carl Beck of New York, in 1897, and shortly afterward Professor Von Hacker in Europe, devised a new operation for the relief of the balanic type of hypospadias and for the penile cases with an opening near the glans. The distensibility and extensibility of the organ with all its structures furnished a basis for the operation. It is well known that the penis in a state of erection is nearly double its length when flaccid, the corpus spongiosum and urethral walls containing much elastic tissue. The Beck operation consists in completely mobilizing sufficient urethra to extend to the position in which it is wished to place the meatus. (Fig. 15.) The urethral site on the glans is freshened and made of sufficient depth to close the glans over the tube of urethra. (Fig. 16.) The urethra is exposed by an incision well back along the penis and is freed from its bed and its opening sutured to the glans. The incision is closed by sutures which also serve to build a frenum by attaching the freshened prepuce to the base of the glans penis. (Fig. 17.) When there is a shallow groove

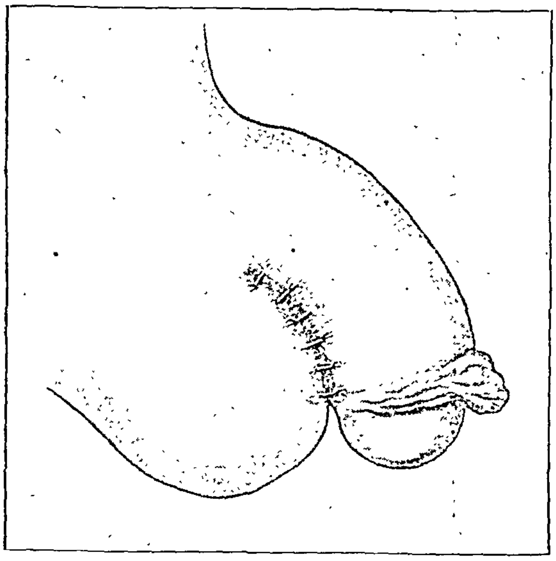
Fig. 14.—Rosenberger, Landerer and Bidder.

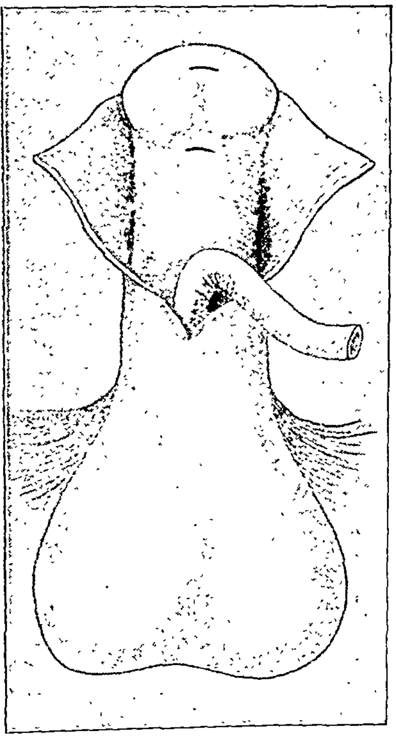
Fig. 15.—Beck.

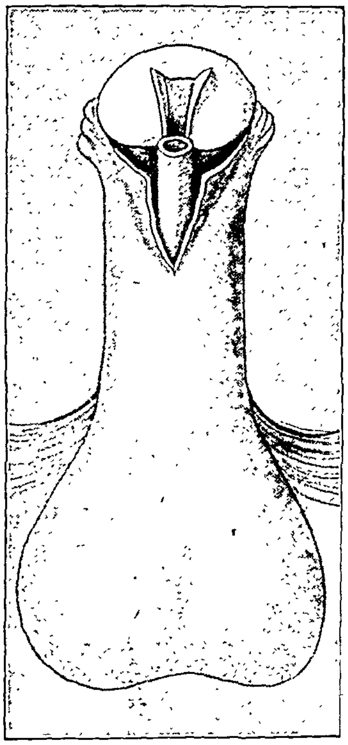
Fig. 16.—Beck.

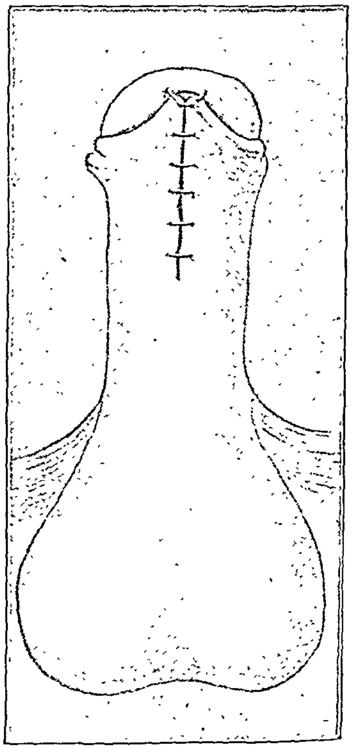
Fig. 17.—Beck.

and little deformity, the glans may be tunneled with a narrow bistoury or trocar and the tube of urethra drawn through and sutured to the opening on the surface of the glans. (Fig. 18.) The advantages of the method are many. The total length of urethra is normal in its mucous membrane. There is no catheter needed, patients pass urine freely during the healing process, and the wound pursues a normal course of repair free from urinary contamination.

The operation may be performed in cases of mild degree at a very early age. Dr. Beck has operated successfully on one infant of 5 months. While this operation is probably the best one possible for a certain class of these malformations, it must be combined with some other method to make it useful in relieving most of the penile, peno-scrotal and perineo-scrotal cases.

The 1899 report of the Heidelberg clinic presents three cases of hypospadias treated by the Beck method, in all of which the retraction of the dislocated urethra curved the glans downward and the meatus delivered its stream below as previous to operation, thus giving theoretical but not practical relief. According to a later report from this clinic, with a total of seven cases, better results had been achieved. Dr. A. J. Ochsner, to a great extent, relieves this downward contraction resulting from the Beck operation, by tunneling the glans at a higher point and bringing the urethra through it, locating the meatus above the apex of the organ. Bardenhauer has been credited with the tunneling by trocar instead of knife, but this was done by Dieffenbach in 1838. Any surgeon who has had experience in this class of surgery feels the necessity of having at his command several methods of procedure, and is well pleased if he can restore the functions of the organ as a whole, regardless of cosmetics, by means of one or a part of several operations. The prepuce in cases of hypospadias is usually redundant and situated on the dorsal surface, overhanging the glans like a hood. The skin of the penis is noted for its thinness, having no adipose tissue, also for its looseness of attachment and elasticity. Where it is folded upon itself at its cervical attachment its character very nearly resembles mucous membrane. For the past four years we have utilized this membrane to build the tube of urethra in such cases as could not be relieved by the operation of Beck used alone. The principle of a urethra of prepuce was devised by Van Hook.

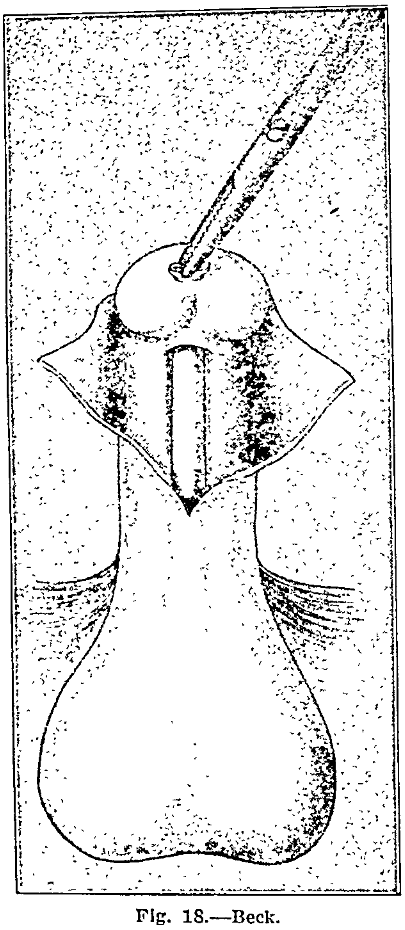

Fig. 18.—Beck.

The prepuce is extended as for circumcision and two incisions are made, about 1 inch apart, extending from its free border to its attachment at the penile cervix; the prepuce is unfolded, forming a loop of thin skin about 2½ inches in length. Should this not be considered sufficient to reach from its attachment to the hypospadiac opening, the two incisions are extended back along the dorsum of the penis until sufficient tissue is obtained, when the two incisions are connected by a transverse one, and the flap of skin lifted but left attached to the cervix by the inner surface. Several sutures now close the lateral integument of the penis over the denuded area. (Fig. 19.)

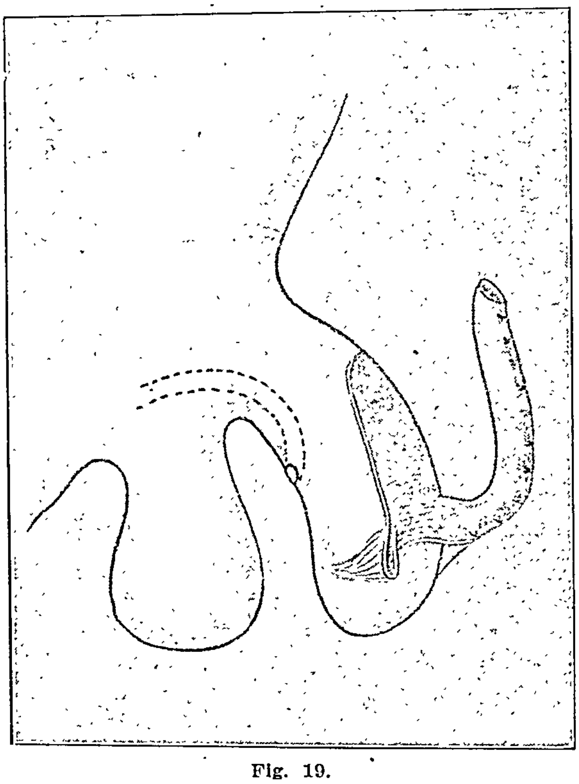

Fig. 19.

The pediculated flap of prepuce is constructed into a tube with its skin or outer surface inside, by means of a number of catgut sutures. The penis is tuneled by means of a narrow bistoury or medium trocar and canula, through the glans, above its groove, along the penis to a point beneath the hypospadiac opening, when it is made to emerge at one side of, but close to, the urethra; the tube of prepuce is drawn through the tunnel and sutured where it enters the glans and also where it emerges. (Fig. 20.) At the end of ten days the flap of pedicle is cut through close to the new meatus. The second operation, made at a later period, consists of a perineal opening into the urethra and insertion of a Jacobs' self-retaining female catheter; this is the least irritating and can be left as long as needed, usually from five to eight days. An incision at the termination of the two urethras now admits of accurate coaptation by sutures, or the normal urethra may be mobilized (Beck method) to a sufficient extent to admit of its insertion into the caliber of the new urethra, where it is held by sutures and the external parts closed over this. (Fig. 21.) Occasionally a little urine escapes into the urethra and the entire canal is best drained by passing several silkworm strands of horsehair through the urethra and out alongside the catheter in the perineal opening. When union of the canals is complete the drains are removed and the perineal drainage will usually close itself in a few days. Horsehair and fine catgut have proved the best suture material for this form of plastic work.

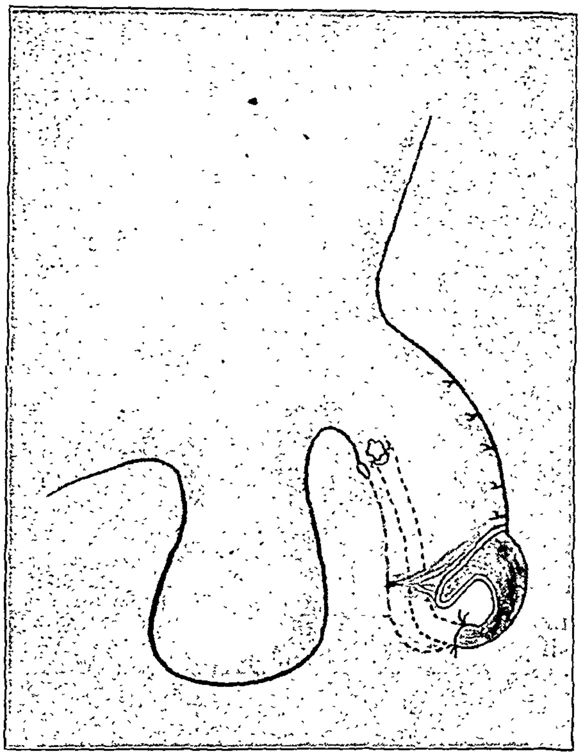

Fig. 20.

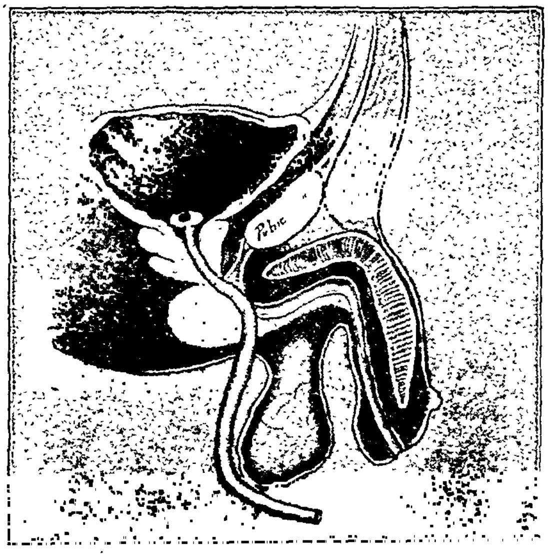

Fig. 21.

The advantages of this combined operation are: 1, a urethral tube of thin elastic skin nearly approaching mucous membrane, yet having no hair surface to occasion later complications; 2, a perineal drain for the bladder, with a self-retaining Jacobs' female catheter; 3, a silkworm drain for the urethra; and 4, in being a method capable of application to the worst types of hypospadiac cases.

I report four cases of hypospadias cured by various methods:

Case 1.—(St. Mary's Hospital Reports for 1897.) A boy of 4 years, penile type, was given two operations, the first a Duplay, with partial success; the second a Thiersch, with a good urethra.

Case 2.—(St. Mary's Hospital Reports for 1898.) An adult, with the balanic type, was given two Thiersch operations, with a nearly perfect result.

Case 3.—(St. Mary's Hospital Reports for 1900.) A boy 6 years of age, of the perineo-scrotal type with divided scrotum, at the first operation had two inches of urethra constructed from the prepuce and skin of the dorsum of the penis; at the second, bladder drainage, a Nélaton catheter in the perineum, but union at the juncture of the urethras failed. Urine passed by the catheter; bladder tenesmus. The third operation gave bladder drainage by means of Jacobs' self-retaining female catheter through the perineum, for eight days; silkworm strands in the urethra for drainage. Cure.

Case 4.—(St. Mary's Hospital Reports for 1900.) A boy 8 years of age, the peno-scrotal type, was given two operations. The first was construction of 1¾ inches of urethra of prepuce and skin from the dorsum of the penis; the second, bladder drainage, self-retaining Jacobs' female catheter through the perineum and union of the two urethras. Urethral drainage was by silkworm gut strands. Cure.

THE POLLUTION OF STREAMS AND THE PURIFICATION OF PUBLIC WATER SUPPLIES.*

COMPARATIVE EFFICIENCY OF SLOW SAND AND MECHANICAL FILTERS.

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Professor of Hygiene, Medical School, Georgetown University.
WASHINGTON, D. C.

COMPOSITION OF RIVER WATER.

River water is a mixture of spring, ground, rain and surface water, but as the water-courses are the natural drainage channels of the country, it is not surprising that the wastes of human life and occupation should also find their way into the streams. It is for this reason that rivers, after passing through cultivated valleys with cities, towns, and villages or settlements on their banks, often contain a dangerous amount of mineral and organic matter. Rivers are always purer near their source; the amount of impurities increase as we descend the stream. Thus, for example, the Mississippi River at Minneapolis contains only 18.6 total solids per 100,000, while the same river at St. Louis contains 244.3 per 100,000.

RIVER POLLUTION.

The sanitarian recognizes two principal forms of pollution, viz.: The amount of mineral matter, and, second, the character and amount of organic matter contained in the water. The amount of mineral matter depends largely upon the geological formation of the country and the erosive powers of the streams, but water containing 50 parts per 100,000 or 30 grains of solid matter per gallon is unfit for drinking purposes on account of its irritating effects upon the gastrointestinal tract. Beyond this, however, it is of no special significance, unless the water also contains metallic poisons or objectionable chemicals.

In regard to the Potomac River, which may serve as a type of American rivers for our discussion, we know, for instance, that certain pulp mills, tanneries and manufacturing establishments discharge chemicals and various refuse; one paper mill alone discharges over 100,000 gallons of liquid into the river each day heavily laden with sulphuric and tannic acids.

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* Presented to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

These gross forms of pollution, although at times so great as to prove destructive to game fish, are of less interest to sanitarians than pollution with organic matter, especially sewage contamination derived from the towns and settlements within the Potomac drainage basin, which covers 11,043 square miles, with an estimated population of 491,813 people, or about 44.5 per square mile.[1] Among the larger towns may be mentioned Cumberland, Frederick, Hagerstown, Harpers Ferry, Staunton, but as none of them are sewered, whatever contamination they produce is derived from surface drainage.

CHEMICAL ANALYSES.

Notwithstanding these numerous sources of pollution, the Potomac River, according to the chemical analyses, compares very favorably as regards purity with other American rivers.

The following are the results tabulated for comparison by Colonel Miller and based upon 72 analyses of the Potomac water as delivered from the faucet in the laboratory of the health office, from July, 1897, to Jan. 31, 1900, and daily analyses made by Mr. R. S. Weston, between July 1, 1899, and Jan. 20, 1900:

	Total Solids.	Free ammonia.	Alb. ammonia.	Nitrites.	Nitrates.	Chlorine.	Required oxygen.
Health office	126.7	0.0008	0.111	Trace.	0.639	3.78	2.56
Robert S. Weston. .	139 0	013	.105	0 002	.73	2.60	4 50
Mason's safe limit. .	150-300	.01-.12	.10-.28	.0135-.003	.42	3 10	5-7.

BACTERIOLOGICAL ANALYSES

Now, let us inquire into the results of the bacteriological examinations of this water which have been made by various competent authorities at the Army Medical Museum, and by Kinyoun and Sprague, of the Marine-Hospital laboratory, during the past ten years. The latter also examined samples at or near all the important towns from the head waters of the Potomac and Shenandoah rivers, and may be said to accurately represent the bacteriological condition of the entire river. Intestinal organisms were found in over 90 per cent. of the samples. The number of bacteria varied from 150 to 20,000 per cubic centimeter, with an average of something over 1000. The more recent examinations, conducted under the supervision of Colonel Miller from July, 1899, to March, 1900, show a minimum per cubic centimeter of 48 in July and a maximum of 51,000 for January, 1900, with an average of 3761 per cubic centimeter. Of the specimens taken on about two hundred different days, 50 per cent., or one-half, revealed the presence of the bacillus coli communis.

TURBIDITY AND BACTERIA.

This exhaustive study also confirmed the conclusions of Theobald Smith and others, that turbidity of the Potomac water is always accompanied by a larger amount of organic matter and germs, and that fecal bacteria and turbidity are coincident, simply because the same showers that bring along large sections of pulverized river banks also wash through the towns, barnyards, cesspools, and outhouses before finding their way into the creeks and river.

SIGIFICANCE OF INTESTINAL BACTERIA.

The presence of intestinal bacteria is satisfactory evidence of pollution by fecal matter of man or animals and strongly point to the possibility of infection with typhoid bacilli.

Mr. Davis, of the Geological Survey, estimates that the sewage from the vicinity of Cumberland, a distance of about 134 miles, requires from two to four days to reach Washington aqueduct. We also know that typhoid bacilli retain their vitality for a number of days in ordinary water, and could therefore infect consumers of water in Washington.

TYPHOID FEVER AND WATER-BORNE DISEASES.

My suspicions that typhoid fever germs may thus travel all the way from Cumberland were confirmed as early as the winter of 1889-90, by studying the effects of the typhoid fever epidemic at Cumberland upon the prevalence of the disease in Washington.

The records of the health office show that during this epidemic, from December, 1889, to April, 1890, the deaths from typhoid fever amounted to 74, as compared with 42 for the corresponding months of the previous year. Indeed, we had almost double the number of typhoid deaths during these months than for any similar period either before or since this epidemic.

Cumberland had about 45 deaths and 485 cases. Wahsington had 74 deaths and about 740 cases, and yet the starting-point of all was the excreta of one patient washed into a little run which empties into the Potomac about 300 feet above the pumping station of the water-supply for Cumberland. In the face of this fact and the almost constant presence of intestinal bacteria, I have no hesitation in declaring that the excessive typhoid fever rate of the national capital is largely due to contaminated Potomac water. We know the germs must be there, whether the bacteriologists find them or not, because the people who drank the water were taken sick, while the non-consumers remained exempt.

What has been said of the Potomac River is equally applicable to the Ohio, Mississippi, Merrimac, Connecticut, Missouri and other American rivers, because they are the sewers and at the same time the source of water-supply for nearly all the cities located upon their banks, and these cities, as shown by the statistics collected by the Marine-Hospital Service, show, moreover, a marked prevalence of typhoid fever, thus confirming what has been observed over and over again that this disease, as also cholera, dysentery and diarrheal diseases, can be carried from one town or city to another by means of a water-course. About three years ago Surgeon-General Wyman estimated, from statistics received in his office, that every year there are no fewer than 45,000 deaths caused by typhoid fever alone throughout the United States. This number has now reached, very likely, 50,000, and, based upon an estimated mortality of 10 per cent., it is within reason to assume a yearly prevalence of 500,000 cases of this disease.

The average duration of a case is not less than thirty days. If we calculate that only $1 per day is expended for care, treatment and loss of work and that the value of a human life is $5000, we have a total loss in the United States every year of $400,000,000 from one of the so-called preventable diseases. Reduce the prevalence of this single disease one-half, which has been accomplished in Europe and can be done here, and the question as to what public sanitation has accomplished will be answered from an economic point of view.

We would not think of establishing a vicious circle

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[1] See Colonel Miller's report, Senate Doc. 259, p. 9.

TABLE No. 1.—DISPOSAL OF SEWAGE BY LAND TREATMENT.

Name of place, town or city.	Population.	When established.	Number of acres.	Remarks.
Far Rockaway, N. Y.	2,288	1895	. . .	Broad irrigation.
Hemlock Lake, N. Y..	1,000	1896	. . .	Pail system.
Vassar College, N. Y..	. . . .	1895	Several	Broad irrigation.
Atlantic City, N. J.	13,000 to 150,000	.	. . .	Filtration [not efficient]; no attempts to raise crops.
East Orange, N. J. . .	13,282	1888	. . .	Chemical treatment supplemented by filtration; no attempts to raise crops.
Essex Falls, N. J .	. . . .	1897	. .	Filtration.
Freehold, N. J	2,932	1893	16	Broad irrigation; 16 acres in Hungarian grass.
Lawrenceville School, N. J.	. . . .	1893	. . .	Broad irrigation; intermittent filtration
Morris Plains Asylum, N. J.	. . . .	1897	. . .	Sedimentation and subsurface irrigation.
Plainfield, N. J.. . . .	13,000	1895	. . .	Broad and intermittent filtration [corn crops].
Princeton College, N. J	. . . .		4	Broad and intermitt't filtrati'n.
Summit, N. J.. . . .	3.502	1892	26	Broad and intermitt't filtrati'n.
Westfield, N. J.. . . .	3,000	1897	12	Broad and intermittent filtration and broad irrigation.
Altoona, Pa.	30,337	1867	70	Irrigation; corn crops.
Norristown Insane Asylum, Pa.	1,500	1885	. . .	Broad irrigation; 5 crops of grass annually.
Wayne	997	1891	11	Broad irrigation; 5 crops of grass annually.
Weston State Insane Asylum.	. . . .	1891	27	Chemical percipitation supplied by broad irrigation.
Paris, Texas	8,254	1897	10	Intermittent filtration; alfalfa crops.
San Antonio, Texas .	36,673	1895	530	Irrigat'n; contemplate farmi'g.
Fostoria, Ohio	2,070	1895	. .	Land purification.
Oberlin, Ohio.	4,376	1893	15	Broad irrigation.
Pullman. Ill	11,000	1881	1,500	Sewage farm yields a net profit of $8.10 per acre.
Rochester Insane Asylum, Minn.	1,050	1890	. . .	Chemical percipitation, supplemented by intermit filtration.
Hastings, Neb	13,584	1892	20	Sewage farm.
Colorado Springs. . .	11,140	1889	35	Sewage farm; 15 acres in alfalfa, 10 acres vegetable.
Trinidad, Colo.. . . .	5,523	1892	. . .	Sewage farm; blue grass.
Helena, Mont.	13,134	1889	40	Sewage farm; vegetables and nursery stock.
Salt Lake City, Utah.	44,843	1896	183	Sewage farm; 80 acres in cultivation.
Phœnix, Ariz..	3,153	.	160	Sewage farm; garden truck.
Fresno, Cal.	10,818	1890	80	Sewage farm; garden truck.
Los Angles, Cal,. . . .	50, 395	1895	2,200	Sewage farm; grain, orchard, alfalfa, vegetable.
Pasadena, Cal. . . .	4,882	1893	300	Sewage farm; grain, orchard, alfalfa, vegetable.
Redding, Cal..	1,821	1889	100	Sewage farm; corn, potatoes, vegetable.
San Luis Obispo, Cal.	2,995	1888	. . .	Broad irrigation.
Santa Rosa, Cal . . .	5,220	1889	18	Farm for vegetables.
Augusta, Me., State Insane Asylum.	. . .	1872	Few..	Produces hay and garden crops.
Concord, N. H., State Insane Asylum.	. . . .	1872	Few..	Pumped to the irrigated area for crops.
Amherst, Mass	4,512	1881	. . .	Settling banks and absorption ditches; 3 heavy crops of hay raised annually.
Brockton, Mass. . . .	27,294	1894	30	Crops of peas, beans, tomatoes, corn, cabbage, etc.
Gardner, Mass.. . . .	8,424	1891	2	Intermitt'nt filtrati'n; no farm.
Greenfield, Mass . . .	5,252	1882	. . .	Meadow irrigation.
Lenox, Mass	2,889	1876	1½	Subsurface and surface irrigation; no farm.
Marlboro, Mass. . . .	13,805	1893	37	11 acres used for farm purposes.
Concord Reformatory, Mass.	. . . .	. .	. . .	Irrigation; grass and corn crops
Medfield, Mass.. . . .	1,493	1886	1	Sedimentation and upward filtration.
Natick, Mass..	9,818	1896	12	Filtration.
Norfolk County Jail, Mass.	. . . .	. .	. . .	Land disposal plant; no details.
[illegible]	8,747	1893	20	Broad irrigation; good crops.
[illegible]	. . . .	. .	4	Filtration.
[illegible]	. . . .	. .	. . .	Intermitt'nt subsurf. irrigati'n.
Sherborn Prison, Mass	. . . .	. .	. . .	Subsurface irrigation.
South Framington, Mass.	. . . .	. .	. . .	Indian corn, crops standing sold for $30 to $40 per acre.
Wellesley College, Mass.	500	1893	1.55	Intermittent filtration.
Westboro, Mass. . . .	5,195	1892	33	One-half of the land classed as swamp and meadow.
Worcester Insane Asylum.	. . . .	. .	30-40	About 14 acres used for farming purposes.
Central Falls, R. I . .	20,355	1892	35	Filtration.
Pawtucket, R. I . . .	32,577	1893	4	Filtration.
Cranston State Institute, R. I.	. . . .	1895	500	Irrigation.
Bristol, Conn..	7,382	1893	80	Broad irrigation and intermittent filtration; 6 acres in use.
Danbury, Conn.. . . .	16,552	1897	. . .	Intermittent filtration.
Lake Wauremaug, Conn.	. . . .	.	. . .	Dry-earth system and fluid waste by filtration.
itchfield, Conn.. . .	3,304	1890	4	Irrigation.
den, Conn	21,652	1891	150	Broad irrigati'n intermittent filtrat'n; no attempt at farmi'g.

TABLE No. 2.—DISPOSAL OF SEWAGE BY CHEMICAL AND PATENTED PROCESSES.

Name of place, town or city.	Popu ation.	When established.	Remarks.
Rockingham Co'nty poor farm, New Hampshire.	1,000	1895	Collecting tanks; sludge utilized for compost; patented process owned by the Glover Company.
Mystic Valley, Mass	. . . .	1887	By chemical precipitation.
Worcester, Mass . .	98,678	1890	Chemical purification works.
Danbury, Conn. . .	16,552	1897	Wolf's disinfecting process with sodium hypochlorite; recently purchased land for intermittent filtration.
Brewsters, N. Y. . .	. . . .	1893	Electrical treatment, simply a process of disinfection by sodium chloride; hypochlorite produced by electrolysis.
Brooklyn, Twenty-sixth Ward, N. Y.	. . . .	. . .	Chemical purification; J. J. Power's patent.
Chatauqua Assembly, N. Y.	(a)	1893	Chemical precipitation.
New Rochelle, N. Y.	8,217	1894	Chemical purification.
Bath Soldiers' and Sailors' Home, New York.	1,500	. . .	Chemical purification; Power's patent.
Batavia State Institution for the Blind, New York.	. . . .	1891	Chemical purificat ion.
Long Branch, N. J	7,000-8,000 80,000-100,000	1886	Chemical precipitation and mechanical separation.
Reading, Pa	58,661	[illegible]	[illegible]
Alliance, Ohio . . .	6,707		
Canton, Ohio. .	26,189		
Wayne County Poor Farm.	. . . .		

a Several Thousand.

TABLE 3.—SHOWING THE AVERAGE NUMBER OF DEATHS FROM TYPHOID FEVER PER ANNUM BEFORE AND AFTER FILTRATION.

SAND FILTERS.

Name of town.	Average number of deaths from typhoid fever per annum before filtration.	Average number of deaths from typhoid fever after filtrat'n.	Reduction. Per cent.	Number of years upon which statistics are based before and after filtration.	Remarks.
Lawrence, Mass .	52	13.8	73.5	5	Filter established September, 1893.
Ashland, Wis.. . .	39	4 5	88 5	2	Filter established September, 1895.
Hamilton, N. Y.. .	0.66	0.33	50	3	Filter established in 1896.
Mount Vernon, N. Y.	3.4	1.8	47	5	Filter established in 1894.
	95.06	20 43	78.5	. . . .	
MECHANICAL FILTERS.					
Macon, Ga	10.5	7	33	4	Filter established in 1893.
Atlanta Ga. . . .	61	46	25	3	Filter established in 1881.
Oakland, Cal. . .	19	17	11	5	Filter established (Hyatt) 1892.
Reading, Mass . .	4	1	75	1	Filter established (Warren), July, 1896.
Terre Haute, Ind.	21.6	15	31	5	Filter established (Natural filter), July, 1890.
Elmira, N. Y.. . .	10	11	Increase. 10	1	Filter established April, 1898.
Newcastle, Pa . .	13	28	115	1	Filter established (New York), April, 1897.
Lexington, Ky . .	18	64.2	256	4	Filter established June, 1895.
	157.1	189.2	Increase. 20.43%	. . . .	

between our mouths and the drainage of our houses and stables and yet practically we have suffered this to be done upon the erroneous assumption that rivers purify themselves. While a certain degree of purification is possible by natural means, such as dilution with unpolluted water, deposition of suspended matter, the agency of aquatic animals and plants, the bacteria of nitrification, the destructive influence of sunlight upon micro-organisms, and the chemical affinity of certain bodies, I am glad that biologists have about come to the conclusion that "no river is long enough to purify itself."

What has been said of typhoid fever is equally true of other water-borne diseases like cholera, dysentery, cholera morbus, diarrheal diseases, and the transmission of the eggs of intestinal and other parasites, because the germs or eggs of these diseases are present in the intestinal tract and presumably also in sewage-contaminated water. Thus, for example, the cholera epidemic of Hamburg in August, 1892, resulting in 17,020 cases, with 8605 deaths, was caused by a band of gypsies camped on the banks of the river Elbe, and the discharges of one of its members suffering from cholera were emptied into the river, which at that time was served to the inhabitants of Hamburg without filtration. The epidemic spared the adjoining city of Altona, which derives its water from the same river after receiving the sewage of Hamburg with its 800,000 people, but Altona filtered its water and Hamburg did not.

PREVENTION OF RIVER POLLUTION.

When we remember that the general mortality of London a century ago was still 40 per 1000, while at the present time it is between 20 and 21 per 1000, and that no two factors have contributed so much to the prolongation of human life as the improvement of the air we breathe and the water we drink, it must be apparent that it is high time for civilized communities to take steps toward removing the danger to be found in rivers which are the sewers and at the same time the sources of public water-supplies. "One of the most pressing needs, therefore, is an investigation into the pollution of water supplies, which such pollution affects or threatens to affect the sanitary condition of the people of more than one State," because the individual states are powerless to protect themselves against the misdeeds of their neighbors.

Mr. Bartholett's bill for the appointment of a river pollution commission, first introduced five years ago, has not yet become a law. England enjoyed the benefit of such a commission as early as 1855, and in order to prevent, remedy and remove the danger of polluted water-supplies adopted a comprehensive system for the disposal of sewage and of water filtration, the fruits of which are shown by a marked decrease in the number of cases of typhoid fever, diarrheal diseases, and consumption, amounting in some localities to over 50 per cent.

I maintain that no community or individual has a right to pollute streams used for public water-supplies any more than a man has to contaminate his neighbor's well. This principle is very well appreciated by some of the nations in Europe. Thus the inhabitants of a town in Belgium suffered from the effects of a river polluted by the French, and the French government not only compelled the offending city to dispose of its sewage by irrigation, but granted a subsidy for this purpose.

All that is needed in this country is a correct appreciation of the dangers, and the first step in this direction is the appointment of a commission. The Marine-Hospital Service, which has for a number of years satisfactorily performed the functions of a national board of health, could, with the aid of the hydrographers of the U. S. Geological Survey and special agents of the Department of Agriculture, perform this duty without any great expense to the Government.

PURIFICATION OF SEWAGE BY IRRIGATION.

After determining the extent and dangers of river pollution, the remedy can be applied, and consists in the adoption of a system in which the sewage and noxious waste waters are utilized and disposed of by irrigation on so-called sewage farms, and the effluent and purified waters are returned to the streams.

This system has been in vogue in some European cities for many years. The city of Berlin purchased about 20,000 acres of land and, notwithstanding the enormous outlay of a little over $3,000,000 for the land and over $10,000,000 for the sewer system, operates these farms at a net profit of about $60,000 per annum. The city employs men condemned to the workhouse as laborers at the farms, and practically converts vagabonds into producing classes, with a fair prospect, too, that many of these individuals will continue their honest efforts to become self-supporting citizens; moreover, the old manor houses of the individual farms are utilized as country homes for convalescents, and thus the beneficent effects of this system are felt in more than one direction.

It is a matter of great satisfaction, therefore, that within the past ten or twelve years over one hundred communities in the United States have established plants for the disposal of sewage. The first attempt in the establishment of a sewage farm in this country was made at the Augusta, Me., State Insane Asylum in 1872, since which time 78 plants for the disposal by irrigation and 15 by chemical treatment, etc., have been established, and over 40 more projected. I have prepared Table No 1 from data obtained in Mr. George W. Rafter's Brochure No. 22 of the U. S. Geological Survey, 1899, on Water Supply and Irrigation. Among the more prominent and successful sewage farms may be mentioned Brockton and South Framingham, Mass.; Bristol, Conn.; Plainfield, N. J.; Altoona and Wayne, Pa.; Pullman, Ill.; Hastings, Neb.; Colorado Springs, Colo.; Salt Lake City, Utah; Helena, Mont.; Phœnix, Ariz.; Fresno, Los Angeles, Pasadena, Redding, and Santa Rosa, Cal.

Heretofore it has not been considered necessary to prevent the pollution of rivers affected by tide waters. Dr. Conn, of the Wesleyan University, in 1894, traced, however, an outbreak of typhoid fever to raw oysters which had been fattened in a place where they were liable to contamination by sewage from typhoid patients, and since then numerous instances have been reported elsewhere. It has been shown that typhoid fever germs remain viable in oysters from fourteen to thirty days, and the medical officer of the local government board of England, in the twenty-fourth annual report points out the danger of many of the oyster beds on the English coast from sewage pollution, all of which indicates that even this newly-discovered source of danger should be guarded against.

PURIFICATION OF PUBLIC WATER SUPPLIES.

The primary object of disposing of sewage by means of irrigation is the prevention of the so-called water-borne diseases. I do not believe, however, that this method alone can be relied upon, as instanced by the cholera epidemic at Hamburg and typhoid fever epidemics at Plymouth and Cumberland, where the dejecta of a single patient were sufficient to cause the mischief, hence prevention of river pollution should be supplemented by filtration of the water-supply on a large scale, of which there are two systems, the American or mechanical method, and the English or natural sand filtration.

Time will not permit me to enter into their respective merits except to say that the mechanical filters, as first pointed out by Mr. Hill, have accomplished very little in the reduction of typhoid-fever death-rates in cities where they are used. In the subjoined table five American cities using these mechanical devices are compared with five cities in Europe using water from sand filters, with an average for the year 1895 for the American cities of 46.8 typhoid deaths per 100,000 living, against 6 deaths per 100,000 for the foreign cities. That is to say, the American rate was almost eight times greater than the foreign rate.

EUROPE (SAND FILTRATION.)

	Before filtration.	After filtration.
Berlin	100	5
Breslau	113	9
Hamburg	21	9
Rotterdam		2
The Hague		5
Average	78	6

UNITED STATES (MECHANICAL FILTERS).

Davenport	26
Atlanta	43
Chattanooga	48
Quincy, Ill	58
Knoxville	59
Average	46.8

Lest this comparison between foreign and domestic cities be considered unfair, I have prepared Table No. 3, showing the average number of deaths from typhoid fever in several American cities before and after filtration. From this table we learn that while sand filters accomplished a reduction of 78.5 per cent. in the number of deaths from typhoid fever, the establishment and use of mechanical filters have coincided with an increase of 20.43 per cent.; and even if we eliminate from our consideration Elmira, Lexington and New Castle, where an increase was noted, the reduction of typhoid fever in consequence of mechanical filtration amounts to only 26 per cent., as compared with 78.5 per cent. by the process of sand filtration.

FLOATING KIDNEYS IN CHILDREN.*

I. A. ABT, M.D.

CHICAGO.

Floating kidneys in children have not been frequently observed. Dr. Jules Comby, at the sixth annual meeting of the British Medical Association, in 1898, reported 18 cases, the children varying in age from one month to 10 years and over. It is remarkable to note that 16 of his cases occurred in girls. This proportion corresponds to the observations which have been made in adults. Ebstein states that 100 females to 15 males are affected, whereas Dietl believes that 100 adult females to one male are affected. Senator writes that he considers the last proportion to be the more nearly correct. Comby's cases do not, however, stand alone in the literature; quite a number of observers before him have reported these cases.

Steiner[1] reported 1 case in a boy 9 years old, and also 2 cases in girls, respectively 6 and 10 years of age. In these 3 cases it was the right kidney which was involved.

Jacobi[2] believes that cases of floating kidneys in infancy and childhood are for the most part congenital in origin. In children of 10 or 12 years he thinks the condition may be due to a fall or a jump. He has observed at least 8 cases in the course of thirty-six years.

W. R. Stewart[3] reports the case of an infant of 8 months, who had swallowed some pieces of plaster, and who suffered afterward from intestinal obstruction. After thirty-six hours of ineffectual medical treatment an operation was performed. A distinctly movable tumor could be felt on the right side, which was believed to be the obstructed gut. Upon opening the abdomen it was found to be a floating kidney, while an intussusception in the left hypogastric region explained the intestinal obstruction. The child had never suffered any inconvenience from the kidney, and its discovery was purely accidental. Richard Frey[4] reports that in 500 autopsies he observed two cases of dislocated kidneys. In each case the kidney of the right side was the one involved. He found that the parenchymatous tissue, the vessels, and the ureters as well as the pelvis of the kidneys were normal. It is a fact well recognized that under normal conditions the kidneys have a certain mobility. In individuals with relaxed abdominal walls the lower pole may be frequently felt during deep inspiration. By floating kidney is meant an abnormal mobility of one or both kidneys, so that the entire organ can be palpated through the abdominal wall. (Senator.)[5]

The etiology of these cases in children, as in adults, is not altogether clear. In adults it is known that the influence of sex is a marked factor, the condition being much more common in women than in men, a fact to which reference has already been made. Not infrequently floating kidney is only one symptom of a general enteroptosis—described by Glenard. Traumatism undoubtedly acts as the direct exciting cause very often. Cases are recorded where blows, falls, the carrying of heavy weights, violent pressure and straining, whooping-cough and a variety of other causes of the same nature have been sufficient to loosen the kidney and cause an undue mobility.

Relaxation of the abdomen after pregnancies, abdominal tumors, ascites, rapid emaciation which leads to a partial or complete disappearance of fat within the renal fascia, may lead to the condition in adults. We must also consider that conditions which influence the weight of the kidney will be sufficient cause to eventually drag the kidney from its normal position and give rise to abnormal mobility. We have, for example, tumors of the kidney, and hydronephrosis.

The recent contributions of Wolkow and Delitzen,[6] on this subject, contain some interesting facts, obtained from experiments on the cadaver. The authors show that the kidneys are attached to the posterior wall in the paravertebral spaces (nischen). These spaces, under normal conditions, are of some depth, and are funnel-shaped below. In the cases where one or both kidneys had moved from their normal position, it was observed that these spaces were cylindrical, and the depth was less marked. The intra-abdominal pressure is an important factor in the fixation of the kidney. The authors also show that the anterior abdominal wall is an important factor in supporting these organs. They believe that the abdominal wall serves as a bandage, and the intestines as an elastic pad, both structures thus serving to support the kidneys.

In very young infants we are compelled to accept the congenital origin of floating kidney. In older children there can be doubt that a congenital predisposition for the disease existed. The hypothesis of Wolkow and Delitgen already cited may be invoked to explain this congenital tendency. The exciting cause may consist of an acute or chronic trauma. The latter is an expression of Kuester, which has reference to causes which are constantly acting, or at least which are of frequent occurrence, eventually dislodging the kidney from its fixed position. It is a noteworthy fact that in two of the cases which have come under my observation there was a high degree of pulmonary emphysema and chronic bronchitis.

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* Read by title before the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Compendium of Diseases of Children, Prague, 1871.

[2] Therapeutics of Infancy and Childhood.

[3] Medical Record, Feb. 9, 1895.

[4] Inaug. Diss., Zurich, 1886.

[5] Ziemssen Specielle Pathologie der Therapie, vol. xix.

[6] Abstract in Centralbl. f. Chir., 1898.

SYMPTOMS.

Perhaps in the largest number of these cases in children, as is also true of adults, the symptoms are latent. Pain is sometimes noted where the mobility is of moderate degree. In some cases the patients suffer from paroxysmal pain, dependent probably on a twisting of the pedicle. The pain may be colicky in character. At times the attack is accompanied with chill, fever, vomiting and perspiration.

The urinary secretion may be diminished; a temporary or permanent hydronephrosis may result from twisting of the ureter. The kidney is usually sensitive, though not acutely painful if it is pressed. A patient of Gerhardt's who was himself a physician, compared the pain to that which is experienced when a testicle is pressed.

Symptoms on the part of the gastro-intestinal organs are not infrequently associated with floating kidney. Dyspepsia and constipation are very often present. Dilatation of the stomach is not uncommon. It is to be noted that of the five cases which have been observed and are reported in this paper three were in female and two in male children. In one case the kidney of the left side was the one affected.

Case 1.—I. H., aged 7 years, a fairly well-developed female child, was an inmate of an orphan's home. The father had died as the result of an accidental injury. The mother suffers from pulmonary tuberculosis. The child had been previously well. Since her admission to the institution it is reported that she has been compelled frequently to desist from her play and was attacked with a feeling of distress on the right side of the abdomen. She was subject to attacks of bronchitis with elevation of temperature. She had distinct symptoms of adenoid growths in the nasopharynx, which were subsequently operated on. Physical examination of the abdomen showed a stomach of normal size. On the right side of the abdomen a tumor could be felt, which varied in position from one examination to the other; it could be readily grasped, was tender on deep pressure, perfectly smooth, and slipped readily from the finger's grasp. On one occasion the abdominal tumor caused the patient great pain of a colicky variety. An anesthetic was administered and the tumor found to have descended into the pelvis. It was carefully examined and replaced. The examination under the anesthetic showed a perfectly smooth kidney of apparently normal size, which had slipped down into the pelvis of the right side and, it was believed, had become twisted on its pedicle. The patient recently reported to me that if she runs or jumps the kidney descends into the pelvis of the right side, or sometimes it crosses over and is lodged in the pelvis of the opposite side. These distant excursions, she says, give rise to severe pain, and she secures relief by grasping the organ and pushing it up. The kidney is not permanently dislocated. If she has remained for a long time on her back it is difficult to feel the kidney while she is in the recumbent position. She has been greatly relieved by an abdominal supporter recently obtained for her.

Case 2.—Tessie T., aged 12 years, has had measles, mumps and scarlet fever. Her thyroid is enlarged, and her mother says she has had pain in her right side for five years. She has complained for six months with symptoms of indigestion, the appetite is poor, and she has great distress after her meals; her abdomen becoming distended with gas, she has pain and frequently nausea. She observes, however, that the nausea is sometimes present before meals; it is not an uncommon thing for her to vomit before breakkfast.

Percussion over the area of the stomach and the distinct splashing sound over a large region shows that the lower margin of the stomach is three fingers' breadth below the umbilicus. She frequently becomes jaundiced, but this remains only a few days; she also suffers from chronic constipation. Examination in the right hypochondriac region reveals the kidney, which makes deep excursions with inspiration, and no difficulty is experienced in grasping the organ between the fingers. The kidney is smooth and apparently not enlarged.

Case 3.—Joe H., aged 10 years, well-developed, has been ill for a long time, complaining of cough, and some difficulty in breathing at night. His pulse is 90; temperature normal. Examination of the chest reveals hyperresonance over both lungs. Sonorous and sibilant râles may be heard over both lungs, and the respiration is diminished on both sides. The kidney of the right side can be felt one hand's breadth below the costal arch on deep inspiration.

Case 4.—Chester S., aged 14, presented himself at the dispensary of the Northwestern University Medical School, and was examined by Dr. G. A. Gowen and myself. His family history is negative. The patient has had whooping-cough and measles. Two weeks ago he fell from a trapeze in the gymnasium. The fall did not prevent him from resuming exercise immediately afterward. He has suffered from cough for a long time, particularly at night, and at times he suffers from asthmatic attacks. Physical examination of the chest gives the usual evidence of emphysema and chronic bronchitis. On examining the abdomen the kidney on the left side can be plainly felt on deep inspiration. The size and shape, the tenderness on pressure, the consistence and the tendency to slip from between the fingers and ascend toward its normal position leave no doubt that the kidney is the organ involved.

Case 5.—Ruth B., aged 9 years, has always been a delicate child. She was artificially fed in infancy, and during the first sixteen or eighteen months of her life suffered from indigestion. She is an extremely nervous child, is very fond of reading, and is inclined to overwork at school. She is very thin and is poorly developed. Her appetite is poor and capricious. She is subject to attacks of indigestion characterized by vomiting and elevation of temperature. On physical examination of the abdomen it is observed that the stomach is dilated. The right kidney may be readily grasped between the fingers on deep inspiration, if the child is examined in the recumbent position; if examined in the erect position the kidney is easily palpated and descends lower in the abdominal cavity.

ADVANCES IN OBSTETRICS DURING LAST HALF CENTURY.*

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The half century is just elapsing since, as a student, I attended my first case of labor, and as I have been engaged in the practice almost continuously to this time and conducted, to within a few years, as many parturitions as fall to the lot of most men, you would naturally suppose there could be no difficulty in selecting an original subject of interest for this paper, but in looking around for the advances of obstetrics in the multiplicity of experiences, I am surprised to find it not so easy, for while medicine and surgery have prodigiously advanced and therapeutics become almost revolutionized, obstetrics continues in the trend of a former half century, and beyond the introduction of necessity for asepsis, the use of anesthesia, and perhaps symphysiotomy in parturitions, gynecologists have captured in their new creations the scepter and left the practice proper quietly trudging on in the same lines as it was found fifty years ago.

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As soon as gynecology, a surgical offshoot of obstetrics, made its appearance, obstetricians, fascinated by the brilliancy of abdominal surgery, soon tired of the tedious drudgery of obstetric practice and enthusiastically entered the development of the new field where professional reputations and fees astonishingly increased, with fewer hours for work, enabling them to enjoy fixed daily periods for relaxation and to secure at night the rest unknown to the general practitioner.

About medical centers this wholesale withdrawal was a comparative death-knell to the advance of obstetrics, genius took to this surgical offshoot and the consequence is that the proceedings of obstetrical and gynecological associations are almost wholly gynecological, so much so that a late president apologized for selecting an obstetrical subject as the theme of his address and which had no relation to the mechanism of labor or its physiological action, but to a pathological condition that was readily recognized and claimed by the gynecologist as within his province.

In my early days Hodge and Meigs, of Philadelphia, the then medical center of this country, maintained national reputations and were revered by all peoples as the highest exponents of the science and art of obstetrics, in the advance and development of which they had been principal factors. Their labors were only completed as the epoch of the greatest advance in obstetrics was ended by their deaths. Before that time the chair of obstetrics was the highest of the seven cardinal departments in the curriculum of study, made so by their personality, yet they drew the line on the use of the knife when necessary to complete labor and consigned the Cesarean section, the operation of that day, to the general surgeon.

This was the entering wedge for gynecology, though for some years dormant, until the genius of Marion Sims astonished the world in exposing preconceived fallacies by throwing aside the barriers that declared invasion of the peritoneal cavity high treason to humanity and regarded the sacred uterus a *noli me tangere*. Prior to this, spinal irritation was the fad, then irritable uterus, and, later still, displacements treated by metal pessaries that to-day might be mistaken for horseshoes. The nervous system was then appealed to to reveal the causes of all the ills that befel women, until the successes of Sims and his followers instituted a popular rage, by brilliant achievements in the development of the principles and practice of gynecology. For many years the lines were severely drawn and, as the gynecologist advanced those who remained obstetricians stood still. Ophthalmology, whose sessions in the AMERICAN MEDICAL ASSOCIATION had been the principal centers of attraction for scientists, as well *hoi polloi* of the membership, soon faded before the alluring wonders of gynecology, which became the absorbing topic and crowded its sessions to a full capacity.

In the minds of the general public, obstetrics is relegated to the position of a mere physiological function and the standing in many civilized countries of the obstetrician is far below that of the man of medicine or surgery. In the triumph of gynecology the average man soon learns to hate practical obstetrics and would avoid it, except for the pecuniary advantages and perhaps his necessities.

How often do you hear the question asked: Who are the distinguished obstetricians of our metropolis? You hesitate. On reflection you find few, and, when asked the names of men who occupy the chairs of obstetrics in various colleges, how many of you can name them? Men who hold them feel their comparative insignificance, as evidenced by their application or expressed willingness for promotion to the vacant chairs of gynecology; and it is a fact that most of them are in training for that step. But as the novelty and acquirement of large fortunes to the gynecologist are fast passing by, revulsion is sure to come when genius will return to the parent and obstetrics resume her place in the original curriculum of importance of fifty years ago, when to the minds of the public the accoucheur will no longer rank so nearly the status of the midwife. The young man who thinks he has accomplished nothing until he has successfully opened and closed a woman's abdomen will intuitively realize a higher sphere in the comprehensive revival when another Hodge or Meigs appears on the stage to lead the van of scientific investigation along its whole course. In our general medical associations, the gynecological sections will no longer occupy the whole time allotted to obstetrics and gynecology, for obstetrics must gather them into her fold by the force of advanced medical education.

As gynecology has robbed obstetrics of all the surgery, I shall confine this paper to the only two marked advances during late years, namely, asepsis, and particularly the use of anesthesia, therapeutically, in the conduct of labor.

The necessity of asepsis in midwifery is so apparent to the practitioner of the present day that cleanliness in all cases and the use of germicides to avert or combat suspected infectious or febrile conditions following labor make the practice imperative to the rational minds of most men. The variety of opinions pro and con expressed by many prominent men as to the value of the different agents and their use in detail, compels others to hesitate, because of their own universal success during long periods of obstetric practice where specific antisepsis was ignored and but the two precautions of cleanliness and avoidance of meddlesome midwifery observed, as taught from the beginning of time. In a healthy woman most of the natural vaginal secretions are germicidal, and in ordinary labors, unless the surroundings are unclean, all women should escape pathological infection, for when sepsis does occur some one is to blame. Infection comes from without, and septicemia is due in many instances to the infected hand of the obstetrician, largely by the use of lard, a fruitful purveyor of septic bacteria.

The profession does not so kindly take to the use of anesthesia, therapeutically, in conducting all labors, especially where by time and patience nature unaided can accomplish the delivery of the child. The causeless fear of post-partum hemorrhage, supposed arrest of uterine contractions, and danger to the life of mother and child, particularly where functional or organic disease of the heart, lungs or kidneys may exist, induces them to desist from its use, on false general principles, due entirely to a timidity begotten of voluntary inexperience.

Twenty-two years ago I had the honor of presenting a paper on this subject to the Pennsylvania State Medical Society, in which, after the administration of the English mixture of chloroform, ether and alcohol to 1000 cases, I felt justified in making the following conclusions, and have since repeatedly proved them to be correct:

1. The parturient state is the only condition of the

system during life in which anesthetics, judiciously administered, are entirely devoid of danger.

2. The physiological action of chloroform, ether and alcohol in a woman during labor is not identical with that in an ordinary subject in a dental chair or on the surgeon's table; and, from the history of such administration, free from a well-authenticated case of death, with statistics showing its superiority over venesection, opium, etc., in the desperate emergencies attending irregular labors, as eclampsia, it is fair to infer that this agent is an especial therapeutic indication for parturient women and should be so regarded in all labors where by its use the pains of the first and second stages could be obviated and this, too, to the ultimate benefit of the mother and safety of the child.

3. In puerperal eclampsia it is especially indicated, because of its direct, rapid and general action controlling nervous physiological irregularities, exciting secretion, relaxing the os and perineum, and, in short, preparing the parts so as to aid the accoucheur in his manipulations for the essential emptying of the uterus, to accomplish which venesection, opium, purgation, baths, counterirritation, etc., either singly or combined, bear to anesthetics the relation of mere fractions to a grand whole.

4. Its application is universal; no disease of heart or lungs should forbid its use.

5. In view of its known therapeutic action and safety in the small quantity required to produce narcosis, no use of the forceps, version or obstetric operation of any moment should be performed without it, not only to save the patient from shock and its consequence, but because of the great saving of time and labor, and in most instances the assistance it affords the operator.

6. Owing to the fact that uterine contractions are sometimes lessened by the administration; it may be regarded as important to precede it by an oxytocic in all labors and at any stage where the pains are slight, so as to increase their force, and also to guard against postpartum hemorrhage, a very infrequent occurrence where such precautions are taken.

7. Accidents to the unemptied bladder, ruptures of perineum and sphincter ani may be prevented, as well as death to the child in prolapsus of the cord, by the facilities afforded for rapid delivery in primiparæ.

8. In no instance have I seen narcosis of the child attributable to the anesthesia.

The small quantity necessary to produce semi-narcosis or full narcosis, the absence of nausea, exhaustion or shock on the return of consciousness, the impossibility of nervous perturbations, the freedom from hemorrhage, the invariably rapid getting up, with the small percentage of stillborn children, are facts that go very far to prove that which I believe to be axiomatic.

By judicious administration of an anesthetic, you can not possibly do harm to a woman in childbirth; nor can you fail to do her good.

In thousands of administrations only two cases of death are alleged to have occurred; even these two cases are so questionable that no one has ever been able to trace them to a reliable source. Whilst no one hesitates to administer the anesthetics in desperate emergencies, they fail to recognize the humanity of administration as a general practice, not alone to relieve pain, but for its imperative demand therapeutically, to facilitate by its aid a happy issue in result.

Few men who will sit by a case of labor using chloroform or the A. C. E. mixture in small quantities to produce scarce semi-narcosis during the pains of the first, and full narcosis in the second stages, can fail to recognize the human adaptability of these agents, not alone to relieve pain, but for the physiological effect in allaying emotional irritants or excitants, thereby moderating central and peripheral nervous irritability, exciting vaginal secretion, dilating the os uteri, relaxing the perineum, giving force and direction to uterine contractions and establishing in all the organs engaged in parturition their true physiological functional activity, so essential to the quick, safe and happy completion of even a natural labor. In exceptional cases, uterine contractions may be lessened, but ergot and the stimulating effect of traction by the forceps will restore the muscular tone and greatly add to the ease and safety of delivery.

But few cases of close observation will be necessary to impress you with the fact that the therapeutic physiological action is not that of any other condition in life, and in eclampsia the patient is safer in the vapor of the anesthetic, during the paroxysms, than when breathing pure atmospheric air.

Many years ago, I saw a primipara with general anasarca, and fearfully apprehensive, because of her condition and the fact that her mother died giving her birth. She was almost blind; the urine was albuminous and scanty. She was exhausted from loss of rest and exhibited the prodromes of convulsions. Without any evidence of labor, I directed an active purge and large doses of bromid of potassium, believing that when labor set in I would have a typical case for testing the virtues of anesthesia in this particular character of convulsive trouble. Before either of the remedies could be administered, convulsions occurred with great violence; I commenced at once the inhalation of the English mixture of ether, chloroform and alcohol at each exacerbation until she was lulled to quiet. Turning a deaf ear to all appeals of the friends for venesection, the anesthetic was steadily continued for two hours, when it was evident her labor had set in and the chief aim was to deliver as soon as possible. While bringing down the child with the forceps, the general appearance of the woman became so alarming as to unmistakably portend to the bystanders certain and immediate death, and, so unwilling were my medical assistants to continue the anesthetic that I was compelled to leave my portion of the work to take the charged towel and crowd it over the entire face of my eclamptic patient; she had apparently almost ceased to breathe, but soon the blueness faded from the finger nails, the extremities assumed a more natural color, the pulse increased in force and the respiration returned to its former stertor. This gave confidence, and the assistants, being assured of no responsibility in the event of a fatal termination, complied with my instructions and for another tedious hour we so guarded her from death as to complete her labor in safety of a healthy, living child.

Twenty years ago, I saw Mrs. D., age 37, with a history of healthy parentage, having herself enjoyed good health until her 29th year. At that time she had her third child, and the labor was followed by a severe attack of measles from which she never fully recovered. A slow and insidious catarrhal pneumonia kept her ill, though not confined to the house or totally disabled from performing her usual domestic duties. She was attended by several physicians for three years, without benefit. In 1878, she was placed in my charge. After three months' attendance, I observed her symptoms steadily increasing in degree. I could not interpret the character of the cough, dyspnea, loss of appetite, diarrhea, profuse and uncontrollable night-sweats, leucorrhea and loss of menses, with extreme emaciation, other than as direct indication of an early demise. I ordered a sedative mixture of hydrocyanic acid and morphia, and hopelessly retired from the case. After several months had passed I met her husband on the street and delicately enquired of her subsequent history. His answer was "As good as could be expected," and as he was with other men, I asked no further questions. Two months later, I received a nameless message to call at a house in another part of the town from where I had seen her last. There I found this same woman improved in weight, appearance and in many respects, though she still had cough, dyspnea, and the lungs showing serious physical signs of embarrassment from fibrous deposits. Her face and arms were thin, but the body was round and full, and while I was wondering what mysterious power had prolonged the life of that woman, my services were asked to attend her in an approaching confinement. While I confess apprehension, my faith in this greatest boon to parturient women was unshaken, and I welcomed the opportunity to prove the truth of my conclusion that no condition of heart and lungs should forbid the use of anesthesia in labor. Accepting service, I secured the assistance of Dr. Chrisman. Her labor came on gradually, but when the pains increased in severity her face and chest became cyanotic. I commenced the administration of the A. C. E. mixture and after very few inhalations the laryngismus stridulus entirely disappeared and there was no sign of return of the cyanosis to the end of her labor. But a small quantity was administered at the beginning of each pain; a state of semi-narcosis was maintained for three hours. When I felt she would have the assistance afforded by the forceps, Dr. Chrisman was summoned and the anesthetic consigned to his care. He was directed to produce profound narcosis; the forceps were applied for one hour, and the delivery was accomplished of a large, living, apparently healthy child. During the next three weeks all went comparatively well, but in the succeeding week a sudden change occurred; dyspnea, cough and fever increased; her old symptoms returned and she declined from exhaustive sweats and malnutrition during the beginning of the fifth week.

A postmortem examination revealed the right lung filled with fibrous deposits from top to bottom, with two cavities the size of walnuts, one in the middle and the other in lower lobe. The left lung was of the same character in the upper half, and so studded with deposits in the lower as to make her whole lung capacity but one-fifth. Five weeks before, the deposit may not have been so great; yet I think at a liberal estimate, we may safely say that at the time of her labor she was only using one-half of the left lung, for during the four weeks after labor, my books show that I paid her very few visits.

With this testimony we should have no hesitation to use the anesthetic in all painful labors. How few physicians would refuse an anesthetic to a man or woman who required the lancing of a whitlow, the extraction of a tooth, the amputation of a breast or limb, or any of the ordinary minor or major operations in surgery, where danger to some extent always attends, and in which exists but a small amount of pain, from the shortness of duration, in comparison with that of an average labor where statistics declare no danger under any administration can be apprehended from the anesthetic alone?

Where is the man who as physician or surgeon in his legitimate province could stand coldly by and see with indifference the writhing of a human being in broken or continued pain without offering to him an anodyne or anesthetic? Yet that same man exhibits stolid and heartless indifference when he becomes an accoucheur and has in his sole charge a helpless woman in the agonizing throes of labor, earnestly beseeching him to save her of her anguish or give to her immediate relief in death.

Fortunately in unnatural labors most physicians regard an anesthetic as directly indicated and rarely attempt version or craniotomy without it; but unless some desperate emergency exists, a morbid apprehension of some mythical possibility seems to seize the mind and govern their action, and a humaneness, for which as physicians and surgeons they may be proverbial, deserts them in the very hour when the tenderest sympathy and promptest care should demand the consummation of a possible painless and happy conduct by that boon which, to a parturient in the travail of labor, falls but little short of what may well be termed an especial therapeutic indication.

WHEN SHOULD PATIENTS BE ADVISED TO EAT EVERYTHING?*

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There can be no question that a large proportion of the chronic ailments from which mankind suffers are mainly direct or indirect consequences of wrong eating and drinking, the secondary effects being produced through autointoxication. However, other hygienic faults are frequently added factors in the causation. The ailments thus induced may include not only the well-recognized diseases of the alimentary system, but also an endless number and variety of more or less obscure conditions of impaired health, ranging from insufficiency of bowel movements or of renal excretion and affections of the skin, to organic disease of the heart, vessels and kidneys as well as apoplexy and many organic changes in the nervous system. They include especially a number of cases of neurasthenia and other vague derangements of the health in ways that often seem very mysterious until a proper interrogation of the digestive organs by the recent exact methods reveals the presence in them of some lesion or functional disturbance, such as a moderate dilatation, displacement or latent catarrh of the stomach or intestines, or, as more frequently happens, hyperchlorhydria with resulting intestinal dyspepsia. Such cases are seen every day by physicians who are accustomed to make thorough examinations of the abdomen and the stomach contents, and not infrequently the only prominent symptoms are nervous ones, especially insomnia and either mental depression or an unwonted nervous tension.

Many patients who place themselves under treatment for the consequences of an unhygienic diet, though their disease may have been years in developing, expect to be so fully cured in a few weeks or months that it will be possible for them to eat everything as they had formerly done. One of the popular tests of the skill of a physician is his ability to cure dyspepsia, as well as the other maladies which require a restriction of the diet, so completely that the patients can again "eat everything."

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Before deciding as to the possibility of restoring to dyspeptics and other invalids this coveted power to indulge their palates to any desired extent without danger, it may be well to consider what the normal food requirements of man are, and then to contrast with these the sort of diet that is now in vogue among well-to-do people.

NORMAL FOOD REQUIREMENTS.

Physiologists have determined over and over again that to maintain the human body in full health, albuminoid or proteid material—furnished by meat, fish, eggs, etc.—must form approximately one-fifth part by weight of the food; the hydrocarbons or fats need to be in about the same or a slightly larger proportion; and the carbohydrates—starch and sugar—must form about three-fifths. The various authorities differ a little as to these exact proportions, and these must vary somewhat with the occupation, climate, etc., but all agree that the carbonaceous foods need to preponderate largely in the diet of man, or nutrition will suffer.[1] Lean meat contains chiefly proteid material, salts and water. Other meats contain considerable fatty matter, as do also such albuminoid foods as fish, eggs and cheese, but practically no starch or sugar, except cheese which contains 2 to 6 per cent. of sugar. In beans, peas and other legumens, as well as in the grains and unbolted flours, there is also a large percentage of proteid material combined with a still greater proportion of starch. Indeed, the legumens contain a greater percentage of albuminoid material even than most meats, fish or eggs, in addition to a still larger proportion of starch, and, therefore, are among the most nutritious of foods for persons able to digest them. The needed fat may be obtained from various sources, but especially from butter, cream, milk, olive-oil, the fat of meat, fish, etc. Milk is more nearly a complete food than any other single article of diet, yet does not contain enough of the carbohydrates to maintain perfect nutrition for prolonged periods in adults, without the ingestion of much larger quantities than the stomach could tolerate.

In the treatment of gastrointestinal catarrhs a milk diet, or one of meat mainly, is often prescribed with advantage for a short time, but either alone, if persevered with long, would cause a slow starvation.

Let us see, now, how a large number of the opulent classes, as well as many people in this country, of only moderate means, actually do eat and drink. With a great number of these, especially those who travel, or live much in hotels, breakfast includes a variety of hearty viands, of which meat or eggs or both usually constitute about one-half by weight, not counting coffee, which contains practically no nutriment at all, except the sugar and milk with which it is flavored. Luncheon also often consists of fully one-half albuminoid material, if not more. But the dinners are the most unhygienic. The approved modern dinner begins with oysters or clams, followed usually by a meat soup, fish and roast meat, and after these come frequently some sort of game and various kinds of entrees. All of these so far, except the vegetables served with the roast and fish, and sometimes with one or more of the other courses, belong to the proteid or nitrogenous aliments which, as a rule, should not exceed *one-fifth to one-fourth, at the most*, of the total food taken. So far, then, the table d'hôte dinner, eaten by the average guest at first-class hotels, consists mainly of albuminoid material, and even when there is added the bread often taken and the desserts with which the meal is topped off, the proportion of proteids is rarely brought down to as low an average as one-half. Moreover, at dinner the carbohydrates eaten are largely in the form of amylaceous articles which are taken mostly with the dessert at the end of the meal when, even in normal stomachs, there is too much HCl present to permit of further salivary digestion, and in hyperchlorhydrics often enough to impair also the action of the pancreatic juice. Then, the cane-sugar served generally with the starch in the dessert is the most fermentable of all foods, and therefore injurious to those patients and convalescents in whom there is a tendency to fermentation.

The pepper, hot sauces, and other sharp condiments with which such a meal is abundantly garnished, produce by over-stimulating the glands, in all except the worn-out stomachs, or those with depressed functions, an abnormally large flow of the gastric and other juices, so that the diner is tempted to eat, and often enabled to digest for a time, until his glands become prematurely exhausted, quantities of rich nourishment of various kinds, out of all proportion to his exercise and needs. The alcoholic beverages which form so common an accompaniment of the dinner, tend ultimately, even when taken very moderately, to produce degenerative processes, and if at all freely used, effect a serious amount of damage, exceeding even that brought about by the long-continued ingestion of a larger proportion of proteids than can be oxidized and assimilated. We know now, too, that alcohol, except in very minute quantities, retards instead of helps the digestive processes, and always impairs, when it affects it in any way, the motor function of the stomach.[2] Furthermore, the testimony of nearly all the leading physiologists is that it is in no proper sense a food.

Under the guidance, then, of our ignorant French cooks and caterers, who prepare their viands as though every one from childhood to old age had feeble peptic glands in constant need of the most energetic stimulation, and arrange their menus as though three-fifths or four-fifths, instead of one-fifth, of man's food should be nitrogenous, the gastronomic tastes and habits of the so-called good livers, and of large numbers of other persons, have become so perverted that it is not safe to advise even the apparently well to "eat everything" put before them. Still less is it safe to give such advice to those who for long periods of time have suffered much from impairment of their digestive functions or from toxemias produced by fermentation or decomposition of undigested food, even when they seem to be entirely recovered, since like causes would in time again produce the same effects and these would, in such persons, result even more certainly and speedily than before.

The truth is that, in all healthy persons with unspoiled stomachs, the gastric and other juices are secreted naturally in abundant quantity with only the stimulation resulting from the chewing and swallowing of any suitable, plain, nourishing food, and without the aid of either alcohol or pepper or other irritating condiments.

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[1] Landois and Stirling (Phila.: P. Blakiston's Son & Co., 1887) say there should be one part of proteid or nitrogenous to 3½ or 4½ parts of non-nitrogenous material in the entire food, while Rubner, in "Handbuch d. Ernaehrungstherapie" (Leipsig: Geo. Thieme, 1897), holds that the proportions must vary with the age and activity of the person, but for adults engaged in moderate or severe labor, gives the normal percentage of albumin as 16.7, of fat as 16.3, and of carbohydrates as 66.9 per cent. In the aged he would place these percentages at 17.4, 21.81 and 60.9 respectively—i. e., nitrogenous a trifle more (though still less than one-fifth), the fats considerably more, a trifle above one-fifth, and the starches and sugars jointly at just about three-fifths the total intake of food by weight.

[2] Diseases of the Stomach. By John C. Hemmeter. Phila.: P. Blakiston's Son & Co., 1900.

The employment of these irritant drugs as excitants in the daily diet of children, youth and adult persons having normal stomachs, is a most irrational practice which is doubtless productive of an incalculable amount of harm. At the best it must lead to the taking of more food than is required, thus not only overtaxing the secretory organs, but also burdening the liver, intestines and kidneys with an unduly large amount of excretory work; and at the worst it must result in a relatively early exhaustion of both sets of glands, as well as in catarrhal inflammations of the alimentary canal and all the unnumbered maladies grouped under the terms lithemia or uricacidemia, not to mention the more dangerous affections of various organs which are believed to owe their origin often to an excess of uric acid and the xanthin bases, and the more obscure forms of autointoxication. It is not intended, however, to condemn the use of table salt, or the various mild articles employed merely to flavor our foods.

It should be time enough to spur the digestive functions with drug irritants when, in the absence of imprudent eating, they are found to be flagging in their work. Usually, when they fail to meet the demands made upon them, except after acute illness or in old age, it is because the demands have been outrageously heavy. In the majority of cases of dyspepsia there is, in the earlier stages at least, an excess rather than a deficiency of the hydrochloric acid, and generally of pepsin and rennet ferment as well, and in these cases the gastric irritants so recklessly employed by the cooks are as useless and injurious as are the scarcely more powerful stomachics which are still so often ignorantly prescribed for them by physicians.

There is more in dietetics than is dreamed of in many of our philosophies. The diet can be made quite as potent for good or harm as our most frequently used medicaments. Besides the abuse of nitrogenous foods and of the sharper condiments, much might be said, if time permitted, of the overloading of the stomach which constantly results from the bad custom of tempting the palate with a lot of rich and often indigestible sweets after the appetite has been fully satisfied and, considering the artificial stimulation just described, after the needs of the body have already been more than supplied. And I shall not enlarge upon the popular fallacies regarding the importance of fruit in the diet of man. Palatable, and often useful as many kinds of fruit are medicinally to counteract some of the effects of overeating, they do not supply to the system any indispensable elements not present in other articles of much higher food value and not so prone to disagree. In moderation most kinds of fully ripe fruit are safe enough for healthy persons, and for many of those whose chief complaint is constipation, but those of lithemic tendency need to indulge in them sparingly if at all.

CONCLUSIONS.

To sum up: We should never advise our patients to "eat everything" until we have thoroughly cured their diseased digestive organs and freed them from the lithemic condition; and powerful as are our modern weapons against these, we can not often succeed in accomplishing such a radical cure until the patients have reformed their unhygienic habits, not only in their eating and drinking, but also in both their work and play. They must learn self-denial and at least the rudiments of the immutable laws of health and, having learned, obey them. They must take into their stomachs, in approximately right proportions, the things that will nourish and strengthen them, and little or none of those whose chief effect is to derange or irritate the functions or tissues of the body. In many cases, besides, they must give up sedentary employments or pleasures and take regularly, every day, an adequate amount of exercise out of doors. In short, oxygenation must be made to bear its proper ratio to alimentation.

Nor should we advise even the well persons in the families under our charge to "eat everything," without some regard to their idiosyncrasies and tendencies, as well as a reasonable amount of care that they do not follow a harmful acquired taste for too much of the rich and complicated viands or such an undue proportion of nitrogenous food as would make patients of them a few years later, by setting up gradually insidious forms of chronic disease which would inevitably result, at a relatively early period of their lives, in gout or rheumatism, or in other more serious and fatal organic affections.

POISONING FROM AUTOINTOXICATION.*

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In Hufeland's "Art of Prolonging Life," written in 1790, and one of the few books of that century still published and read, there is a distinct recognition of autointoxication states generated in the intestinal canal by the fermentation and changes of foods and drinks. Several of the proprietary medicines owe their success to the recognition of this condition and the application of antiseptic and eliminative measures. One such remedy, widely advertised and supported by volumes of testimonials as having cured obscure disorders and averted serious diseases, contains sulphate of magnesia and soda concealed by some flavoring substances. The value of this remedy is in its power to overcome these autointoxicative states which are largely unknown. A book written by an unknown man, claiming to be the science of a new life, nothing more than a promulgation of the theory of two meals a day, points out the same range of causes, with abstinence as the remedy. Eating large quantities of food three times a day is very apt to produce intestinal troubles by supplying more nutriments than can be assimilated, and furnishing the conditions for poisoning from that which is not used. Every practitioner is familiar with autointoxication and infection from the presence of foods which undergo putrefactive changes. The good results from antiseptic and eliminative treatment demonstrate this. The limits of this present paper make it impossible to do more than call attention to a particular form of autointoxication due largely to the products and chemical disturbances which follow from the use of beer and spirits. The common theory that spirits increase or in some way aid digestion, and can be used with foods with comparative safety, has no support in modern research. Persons who drink wine and beer only at meals are never good types of health and free from digestive disorders so common to all classes. Moderate users of spirits only at meals are not common in this country, for the reason that they are unable to confine the use of spirits to the time of food-taking. Literally, such persons soon begin to drink at other times and occasions, and often to excess. The average moderate drinking man, whether using spirits at meals or on other occasions, very soon becomes an invalid. Often this invalidism is called "rheumatism," "malaria," etc., and is marked by local palsy, headaches, irregularity of the heart's action, insomnia, dyspeptic symptoms, catarrhal difficulties, with alternate constipation and diarrhea. These and other obscure symptoms are ascribed to various causes and are rarely recognized as having any connection with the use of beer or spirits. The disappearance of all these symptoms after periods of total abstinence from spirits is usually ascribed to some other cause. The ordinary beer drinker is the most prominent example of autointoxication. In many instances but little change is noted in the first period of addiction. One may use beer daily for a long time, without any noticeable change, but sooner or later a class of symptoms will appear which clearly point out the presence of toxic products and their absorption into the system. The fatty degeneration so characteristic in beer-drinkers, associated with increase of flesh, loss of vigor and enfeebled action of the heart, is common to most cases. Enfeebled vigor and slow vitality is noticeable, particularly among the English workmen in large cities and towns. Such persons have every appearance of health, but when injured or attacked with disease, have no resisting power and die from apparently trivial causes. In this country beer-drinkers usually are dyspeptics, and have catarrhal and other local inflammations. They suffer from influenza, malaria, are sluggish, exhibit mental feebleness, and are great patrons of the doctors and the free dispensaries. The use of wines and stronger liquors in moderation or excess is followed by neuralgias, insomnia, and obscure pains which are called "rheumatism," and "malaria," or "the sequelæ of the grip." Other symptoms of disability which are noted in persons who use spirits to excess are frequently apparent in disorders of the nervous system. Some of the most obscure symptoms pointing to changes in the brain disappear rapidly from the discontinuance of spirits. In clinical studies this fact is so apparent that careful inquiries are always directed toward the habits of the patient to determine the influence of alcohol, if possible. The fact of using alcohol is becoming of greater significance clinically, and next to syphilis is a contributory cause in the production of a great variety of disease, and should be inquired into in every obscure case.

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ACTION OF ALCOHOL.

Recent pathologic studies have cleared away much of the obscurity concerning the action of alcohol on the organism. We now know that alcohol, even in a small quantity, has a peculiar corroding action on both cell and tissue, impairing its power of growth and repair, and diminishing its functional activity. The nutrition which would naturally be used to repair cell and tissue is diverted, changed, and becomes waste products. The action of alcohol on the nerves, particularly those which control the blood-vessels, lessens the power of control and permit the blood to pass with greater force and volume, putting greater strain on the walls of the minute arteries, and is probably followed in many instances by minute hemorrhages. Alcohol in the blood diminishes the oxygen-carrying property, destroying the hemoglobin, and is followed by states of starvation. The waste products increase and the power of elimination decreases, hence all the processes of digestion are disturbed and altered. The waste products are retained and become sources for the growth of pathogenic germs. Both the liver and kidneys are subjected to increased activity with diminished nutrition. The pathologic condition is clearly that of starvation and irritation which rapidly merges into inflammation and exhaustion. The products of these deranged metamorphoses become real poisons, and their presence in the system is marked by many and obscure symptoms. Often the evidence of these pathologic conditions is confirmed by the results of treatment. An example will make this more clear. A moderate-drinking lawyer who was an invalid, having been unsuccessfully treated by many physicians for many grave diseases, suddenly became a convert to "Christian Science." He abandoned the use of all spirits, and lived on a restricted diet, with mineral waters. The recovery which followed was attributed entirely to mind effects. In reality, it was simply the removal of the causes, viz., the spirits, overeating, and the autointoxication which followed.

Again, a farmer, who used cider-brandy regularly every day, was thought to have gastro-enteritis, with colitis and local paralysis. Heart lesion and asthma were also present. After various efforts to recover, which were unsuccessful, he gave up all use of spirits, and was treated in a sanitarium, by baths, milk, and a restricted diet. The result was most satisfactory, and the recovery very rapid. These are common instances which are often seen in practice. The young physician trained in the technique of modern diagnosis would find very grave symptoms of organic disease in such cases. To the older physician with experience and an intuitive diagnostic sense, the term "bilious" would express his conception of diagnosis and subsequent treatment. A great variety of obscure symptoms whose origin would be doubtful, should always be treated on this supposition that the poisonous products may be spirits and allied causes. Inflammatory states and bacterial sources of infection, localized lesions, and irritations may all spring from the same source, and their sudden recovery following the use of commonplace remedies and placebos should be considered evidence of their toxic origin. Many of the most wonderful cures ascribed to various remedies are nothing more than the removal of toxic poisons. In neurotic persons these conditions are probably often present, and the value of a hospital treatment is very often due to a change of diet and removal of certain causes which were not recognized. The action of a cathartic in all inflammatory conditions is a practical measure along this same line. Neurasthenic states of the brain and nervous system, from overwork and neglect of normal living, may strongly predispose to the formation of toxins in the intestinal tract, the absorption of which will still farther complicate and add to the disorders present. Want of proper muscular exercise, confinement in bad surroundings, using food not adapted to the climate and work, are also prominent causes. Insomnia is another common condition following poisoning. In a patient under my care, where insomnia led up to morphia taking, the treatment by baths, mineral waters, and restricted diet resulted in complete recovery. The original cause was toxemia. The use of beer for its supposed food and strength value often increases this condition. The temporary relief which follows from its anesthetic action on the nerve-centers creates the impression of cure, while in reality the poisoning is increased. Spirit taking for the same reason is often followed by the same results. Sclerotic states of the brain and cord which follow the moderate or immoderate use of spirits, and the slight hemorrhages which we now realize to be very common, are all the direct results of the changes in the metabolism and the formation of poisoned products which in themselves become sources of injury. The term "bilious," in disrepute among modern physicians, and indicating in a general way some unknown congested condition, has pointed out lines of treatment the results of which have been far more satisfactory and nearer a final cure than from any modern remedies. The hydropathic theory of disease and its treatment, particularly the internal use of water, is also much nearer the most advanced teachings of science and its practical application. I append some clinical illustrations of these facts which will bring them into greater prominence. I select some extreme cases as examples of the possibilities of relief from treatment based on this theory of autointoxications.

RESULTS OF TREATMENT.

A lawyer at 52 gave up business on the supposition that he had paresis and must die. A period of ten years of active treatment and consultation had confirmed the opinion that he was incurable. He continued to use spirits every day, at meals and at intervals, eating very heartily, and exercising very little. He suffered from palsy, lancinating pains, insomnia, and gastro-intestinal disturbance, was intensely irritable, and depressed at times, and had delusions of exaltation, which slowly increased. By an accident, he was forced to stay at a sanitarium, where he reluctantly consented to the withdrawal of spirits and the substitution of baths and moderate exercise. The change was so pronounced that the treatment was continued. Three months afterward all symptoms had subsided and he was able to go about free from pain and fully restored. He returned to his profession, working moderately and living abstemiously, using baths daily. Four years afterward he was still well and strong. The inference was clear that his paresis was very largely functional, and due to the toxic conditions of the body. This case was the subject of much discussion, and has been published in the journals.

An instance of a remarkable cure ascribed to a preparation of soda was undoubtedly due to hygienic measures of baths, abstinence from spirits, and a limited diet, followed continuously for months. I pointed out this probable fact to the disgust of the physician, who thought he had made a discovery of a new use of soda.

A second example of the same class was that of a prominent clergyman, who for years had used wines at table, and beer at intervals for its supposed tonic action. After an attack of influenza, hemiplegia with great enfeeblement came on. The urine showed disease of the kidneys and the stomach and intestinal tract were also deranged. Several very elaborate diagnoses of grave diseases were made by physicians, and equally elaborate plans for treatment were suggested. He was finally put under the care of a country doctor with no hope of recovery and the only expectation of making his last days comfortable. This physician used a cabinet bath for profuse sweating, and massage followed by a course of dieting, with mineral waters, and passive exercise. The recovery was rapid. The paralysis disappeared. His mental condition changed, and all symptoms of inflammation vanished. The restoration was complete. He did not resume his profession, but went into active outdoor service, and is now—three years *afterward*—well and vigorous. This case, like the other, was clearly one of poisoning which was rapidly merging into a chronic condition, but fortunately the removal of the active causes enabled Nature to restore much of the lost health and vigor.

An active, energetic lawyer, 55 years of age, had a convulsive attack, with unconsciousness, followed by hemiplegia and mental feebleness. This was considered cerebral hemorrhage. The physician gave spirits as a tonic and large quantities of liquid foods to keep up his strength. He had been a wine-drinker at the table, also a very hearty eater of meat, using large quantities of rich food, and occasionally using spirits. For two years he suffered from headaches and intestinal troubles and prolonged periods of prostration. Albumin was found in the urine, and his case was regarded as serious. I was called to witness his signature to a will, and to determine his mental condition. Acting on my advice, the family physician removed all spirits, and restricted the diet, giving mineral waters and baths daily. The result was very marked, with rapid recovery and complete change. After a tour to Europe, under the care of a physician, he returned in good health and vigor, and is now—six years after—strong and well. This was a clear case of autointoxication and the supposed hemorrhage was a poison attack from accumulation of toxins in the brain-centers.

A mechanic and mill-owner, without hereditary history, who had been temperate and regular in his habits up to 46 years of age, returned from a trip to Europe with the habit of using wine at meals. For the next five years he drank sweet wines freely at the table, using large quantities of rich foods on the supposition that he needed more strength and vigor with increased age and work. Attacks of rheumatism, with headache and extreme exhaustion, appeared and were treated by the physician without success. Inflammatory conditions of the joints followed, and convulsive attacks with great irritability and mental changes appeared. These were associated with depression of spirits and physical exhaustion. He went to a sanitarium; spirits were removed, the diet restricted and active eliminative treatment carried out for several months. Recovery followed. He resumed his business and two years later began to use wine at the table again, with rich foods. Strong spirits were taken at intervals, for strength. Later, rheumatism reappeared, then convulsive attacks which were pronounced epileptic. The physician continued to allow wine at meals, using narcotics to prevent the attacks, until finally death took place from acute pneumonia. In this case undoubtedly autointoxication from the use of wines and foods was the special exciting cause of the epilepsy and death. Had abstinence from spirits, rigid diet and careful eliminative treatment been persevered in, the result might have been different. The poisonous irritants and toxins concentrated in the brain-centers were the exciting cause of the explosions of nerve energies and the subsequent debility and death.

NECESSITY OF RECOGNITION OF ACTION OF SPIRITS.

I conclude at this point with a statement of the necessity of recognizing the poisonous action of spirits whether taken in moderation or excess, and summarize what I wish to make prominent as follows:

1. Alcohol in any form, taken into the body as a beverage, is not only a poison but produces other poisons, and associated with other substances may develop toxins Alcohol is also an anesthetic and not a tonic or so-called stimulant. It increases the waste products of the body and diminishes the power of elimination. It also destroys the phagocytes of the blood, and thus removes and lessens the protective power of the blood-cells.

2. Whenever alcohol is used continuously as a beverage, for its medicinal effects, favorable conditions and soils for the cultivation and growth of poisoned compounds are created. These may be neutralized by other

conditions and not be apparent in the derangements of the functional activities which follow. Where disturbance and derangements of the nutrient and functional activities of the body are associated with the use of alcohol, their transient character and disappearance by the removal of spirits suggests the causes.

3. The functional and organic symptoms of derangement appearing in those who use spirits in moderation or excess, which quickly disappear by abstinence and eliminative measures, are clear indications of autointoxications from this source. Obscure symptoms of the nervous system in persons who use spirits should always be examined in relation to the toxic origin from this source. Also grave nutrient disturbances should suggest the same cause with the same treatment.

4. The treatment of all such cases, in which alcohol is used in any form, should be by antiseptic and eliminative measures, and the supposition should always include the possibility of poison by chemical products formed in the body.

PROPOSED NATIONAL BUREAU OF MATERIA MEDICA.

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At the Richmond meeting of the American Medical Association, in 1881, I read a paper before the Section on Materia Medica and Therapeutics, entitled "The Materia Medica of the Future." In this paper I called attention to a condition of affairs threatening progress in materia medica science and, in a resolution offered for me by Professor Dunster, of the University of Michigan, after the reading of the paper, I suggested a way out of some of the difficulties which I then foresaw. The correctness of my reasoning at that time has been amply proved by subsequent events.

From the Richmond meeting I went to Washington and proposed to Prof. Spencer F. Baird, the secretary of the Smithsonian Institution, the advisability of establishing a national laboratory of materia medica under the auspices of the Government. Conferences were held with the heads of various departments, including the medical departments of the army, navy, and marine-hospital service, army medical museum, national board of health, etc. Professor Baird finally said that he considered the plan one of the most important ever brought to the attention of the Government. But lack of appropriation caused its abandonment at the time. In papers read before the Ninth International Medical Congress, Philadelphia County Medical Society and the American Medical Association, I again and again advocated the plan. The American Medical Association memorialized Congress on the subject in 1891, and reprints of my paper[1] accompanied it.

What I contend is that the "Materia Medica of the Future" depends for progress upon the proper interpretation and application of the patent and trade-mark laws. If those laws are so applied as to leave materia medica products free to the science, so that they can be investigated by the co-operative work of the profession, and the knowledge thus evolved reduced to law and embodied in system without the interference of self-interested persons who seek to appropriate it for the purposes of exploitation by misleading advertisements, their application for the protection of capital invested in the drug business will be beneficial. If, on the contrary, these laws are so applied as to create monopolies in medical products, and encourage dishonesty in advertising, they will prove a hindrance to materia medica science and a curse to the American people.

Under act of Congress approved June 4, 1898, a commission was appointed to revise the statutes relating to patents and trade-marks. This commission reported Dec. 4, 1900, and the subject comes before the next Congress for debate. The time is therefore opportune, and it is important that the subject should be understood by the profession in all its bearings. Accordingly I beg attention to the following paper, which I have arranged in the form of a prospectus for a proposed bureau of materia medica. That the Government should inaugurate such a bureau all will doubtless agree. If the Government will not do so an association might be formed of the teachers of materia medica, and the work done by the experts connected with the medical and pharmaceutical schools and colleges working under the auspices of the association.

The plan I have suggested in the following paper is tentative, and needs most earnest consideration and discussion. When the right plan is reached, the committee on national legislation of the American Medical Association will be in a position to bring it before Congress.

PROSPECTUS.

The objects of this bureau are: 1, to establish the standards of the materia medica preparations on the market and keep them under analytic and pharmacodynamic observation, with the aid and co-operation of the expert chemists, physiologists, biologists, botanists, pharmacologists and clinicians connected with the medical schools and colleges, and the pharmacists and manufacturers of medicinal drugs and chemicals; 2, to act as the medium of communication between the scientific workers in the laboratories, hospitals and clinics engaged in the investigation of new materia medica products, and those engaged in manufacturing and marketing them, to develop the knowledge of their origin, genesis, nature, composition, methods of manufacture, standardization, pharmacodynamic properties and therapeutic uses; 3, to collect the knowledge of materia medica products, reduce it to law, embody it in system, and publish it for the benefit of science; 4, to aid the manufacturers of materia medica products and preparations who conform their goods to recognized standards in the introduction of their brands to commence by advocating that the medical profession in prescribing shall specify those brands which comply with scientific and professional requirements.

STANDARDS.

The necessity for authoritative standards to fix the nomenclature, define the character, establish the purity, and regulate the strength of medicine, is recognized by all civilized countries. These authoritative standards are called pharmacopeias. The "United States Pharmacopeia" is an authoritative list of medicinal substances with definitions, descriptions, or formulæ for their preparation. The work was devised, and is decennially revised by a committee appointed by a congress of physicians and pharmacists, which assembles in Washington every ten years for that purpose. The pharmacopeias of all nations, except those of the United States, Chili and Greece, are issued under the authority of the respective governments, and therefore partake of the nature of laws.

WANT OF UNIFORMITY IN MATERIA MEDICA PRODUCTS AND PREPARATIONS.

Compliance with the Pharmacopeia not being obligatory, there is a wide difference of uniformity in this country between the products of the various manufacturers. The processes of the Pharmacopeia yield products with characters which distinguish them from the products yielded by other processes. There are, for example, quite an extensive variety of processes extant for making fluid extracts. Taking the products of the Pharmacopeia as standard, and comparing the products of the other processes with them, grading them in accordance with their resemblance to the official fluid extracts, decided difference of character will be observed between the two extremes. The Pharmacopeia directs a certain process for the manufacture of tinctures. It is evident that the tinctures prepared by the official process, and those prepared by diluting the different kinds of fluid extracts prepared by the processes of the different manufacturing houses, give an equal number of species of tinctures.

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[1] Journal A. M. A., Oct. 24, 1891, p. 623.

Another reason for want of uniformity in such preparations as the fluid extracts, tinctures, and other preparations of vegetable drugs, is due to the wide variance in the amounts of active principles present in different samples of the same drugs. To overcome this variation the Pharmacopeia directs that certain drugs, such as opium and cinchona, for instance, shall be assayed by official processes given for that purpose. Chemical assay, however, is confined to those drugs containing alkaloids, glucosides, and other definite principles, for which practicable processes of assay have been determined.

And what has just been said regarding galenic preparations applies also to chemicals, though, perhaps, not to the same degree. Each chemical process, however, gives a product with characters of its own; and, unless the product be rendered chemically pure, which is rarely the case, the variation in uniformity between products will be governed by the process employed in their preparation. Again, the commercial standards for purity in chemicals pertaining to the market is in many cases decidedly lower than that of the Pharmacopeia, this being another cause for want of uniformity in products.

WANT OF UNIFORMITY IN PRODUCTS MEANS WANT OF UNIFORMITY IN THERAPEUTIC EFFECTS.

The very first essential to uniformity in therapeutic effects is uniformity in products. The importance of all manufacturers conforming to the standards and processes of the Pharmacopeia is therefore apparent. The only exceptions to this rule permissable is in cases where pharmacopeial standards and processes can be improved upon. When such improvements are attempted, the manufacturers should furnish sufficient scientific reasons to justify departure from official standards. This means the employment of experts provided with laboratory facilities and instruments of precision.

THE QUESTION OF MONOPOLY OF MEDICAL PRODUCTS AND PREPARATIONS.

The beneficence and professional liberality which should distinguish the medical and pharmaceutical professions from the vocations of the merchant and tradesman, and the fact that the knowledge evolved by the co-operative work of professional men belongs by right to humanity, makes it unethical for those who are practicing the medical arts to individually appropriate the knowledge resulting from original investigation for selfish purposes. Pharmacy, or the art of manufacturing medicines, is a medical art, and the pharmacist and manufacturer are bound by the same ethical obligations as the physician. Therefore, those who violate the principles upon which medical practice in all its departments is founded, deliberately place themselves without the professional pale, and have no right to expect that the profession will accord them the privileges which belong only to those who comply with professional and scientific requirements. Among those privileges is the use of the scientific pages of the medical journals for the purpose of adding to the knowledge of materia medica by the publication of the results of original research. *But the price of science is publicity, and the surrender of all claims to proprietary rights in the products investigated.* Papers relating to patented or controlled products can only be regarded in the light of nostrum "write-ups" or testimonials, when favorable to the product, and regarded with suspicion when condemnatory; and no physician nor pharmacist of standing can afford to risk professional reputation by reporting upon them for publication.

THE QUESTION OF COPYRIGHTS AND PATENTS.

Carried to its logical conclusion, the enforcement of the professional ideal would exclude from fellowship the authors of medical books, who take advantage of the copyright law to secure monopolies of the products of their brains. Copyright has been made necessary, however, on account of the necessity of protecting the capital of publishers engaged in the business of printing and marketing books. But the monopoly obtained by copyright does not extend to the subject written about. It only includes the title of the book and its language. In the same manner exception can be made in favor of the inventors of new processes and apparatus for manufacturing medicine, and the Government can, without danger to science, grant them the right to prevent others copying their inventions for limited periods of time, so long as the patents do not cover the products themselves. If the product itself is monopolized, every effort is made by the manufacturer to push it to the front as a therapeutic agent by exaggerating its merits, and repressing its unfavorable side, so that it becomes next to impossible for physicians to ascertain its limits as a therapeutic agent and use it intelligently. And if any physician of standing has the temerity to publish its untoward effects, he excites the antagonism and reprisal of the manufacturer.

COMMERCIAL CLASSIFICATION OF MEDICINES.

According to the present classification in use at the United States Patent Office, "medicines" constitute a "class of goods," and manufacturers are permitted to register as trademarks on the class names which they are supposed to use for the purpose of distinguishing their goods of the class from other goods of the same class, but which they in fact use as the titles of the medicines themselves. As well might the patent office group in one class all metallic substances and permit the names of all new metals discovered to be registered as trademarks on the class of goods "metals."

Medical products may be distinguished and classified commercially by order, class, tribe, genera, species and variety. Take quinin sulphate, for example; it belongs to the order "alkaloid," class "cinchona alkaloid," tribe "quinin," genus "sulphate," species the product furnished by a stated "process," variety the "brand" of a stated manufacturer. Now it is evident that as each manufacturer has a right to use any unpatented process to make his brand of quinin sulphate, and that there are several such processes extant, and as the product of each process possesses characters of its own, it is important to name the process as well as the brand. There is a difference between process and brand, even in such definite substances as quinin sulphate. And this difference between process and brand is still more accentuated in case of fluid extracts and tinctures. By the use of the pharmacopeial process for making tinctures one species of tincture may be produced, and different varieties will result according to the amount of skill possessed and employed by the individual pharmacist or manufacturer in using that process. It follows, therefore, that the individual learning and skill which gives character to a medicinal product should have a name as well as the process. That name is the name of the manufacturer, or a name or mark standing in place of the name of the manufacturer—his mark, his commercial signature or trademark.

It is universally acknowledged in law that the function of a trademark is to distinguish the manufacturer, and it is perfectly apparent that the name of the order, of the class, tribe, genus or species of a medicinal preparation, is incapable of performing the function of a trademark. Not until that point is reached, where the individuality of the manufacturer counts, does the commercial signature, which distinguishes between one maker and another, come into play. It logically follows that the specifying of brands by physicians in prescribing throws the responsibility of character, purity and strength of medical products and preparations on the manufacturer where it belongs. This does not relieve the pharmacist who compounds the prescription from his responsibility in the matter of selecting between the various brands of fluid extracts, and other preparations on the market. The physician has the right to assume that the pharmacist fills the prescriptions entrusted to him with preparations made in accordance with the U. S. P., unless those made by other processes are specified.

THE QUESTION OF SPECIFYING IN PRESCRIBING, BY USING PROCESS NAMES AND BRAND NAMES.

Taking the above facts into consideration, it is evident that physicians in prescribing will consult their own interests, and the interests of their patients, by specifying processes and brands; and the manufacturers would consult their own interests by divulging their processes in many instances by patenting them, and providing their products with process names and brand names by which they may be specified. This particularly applies to new medicinal substances as prepared for the market before they have been standardized as to character by the committee for revising the Pharmacopeia.

Take, as an example, tannin albuminate. Knoll has invented a process for preparing it. The name "tannalbin" has been given to that species of tannin albuminate produced by the Knoll process. The Merck brand is on the market. Now it is evident that a patent granted Knoll for his process, which carries with it the right to prevent others from manufacturing and dealing in tannalbin for seventeen years, is protective alike to science and commerce, for no monopoly of tannin albuminate has been created, and exact knowledge of the Knoll process has been filed in the patent office in Washington, and may be had by any applicant for the small sum of five cents. It is also evident that the inventor, in making Merck his agent for introducing tannalbin to the American market, places himself in a similar position to that which the author of a copyrighted book occupies in relation to the publisher, and that the physician in specifying "Tannalbin-Merck" secures the benefit of the Knoll process for manufacturing tannin albuminate and the guarantee of Merck for the character of the preparation. But if the patent on the Knoll process should have been extended to include tannin albuminate itself in the monopoly it would be a similar monopoly to that which the author of a medical book would obtain if his copyright could be made to cover the subject of the book as well as its title and language. It would be very similar to giving a botanist a right to prevent others from writing and publishing anything with regard to a new medicinal plant because he was the first to discover it and write about it. Manifestly, he would be able to control the knowledge of the plant during the existence of the copyright and exploit the plant as a "new remedy" by misleading advertisements "without let or hindrance." Knowledge must be protected, and science promoted, by leaving the products themselves open to the introduction to science by the co-operative and educational channels of the profession. There fore, proper discrimination should be exercised by the physicians in prescribing to make sure they are not playing right into the hands of the nostrum trade.

THE INTRODUCTION OF NEW MEDICAL PRODUCTS TO SCIENCE.

The knowledge of materia medica, reduced to law and embodied in system, constitutes that important branch of medical science properly described as pharmacology. Pharmacology is defined as the science of medicines, their nature, preparation, administsration and effects; including pharmacy, pharmacognosis and pharmacodynamics. Knowledge of one medical product, not known as related to any other, or of many such products not known as having any mutual relations or as comprehended under the general law of pharmacologic science, does not reach the meaning of science. The knowledge of new remedies remains a heterogeneous medley of facts and fancies without co-ordination or control, until it is reduced to law, embodied in system, and provided with a proper nomenclature.

It is evident, therefore, that the only way by which new medical products can be introduced to science is by the co-operative work of those engaged in the practice of the pharmacologic arts, and through the educational channels of the profession—the professional societies and press, the laboratories and lecture-rooms of the professional schools and colleges, the text-books, pharmacopeias, and dispensatories.

THE INTRODUCTION OF NEW BRANDS TO COMMERCE.

There is a great deal of difference between the introduction of new products to science and new brands of manufacture to commerce. The former belongs to the sphere of science, and the latter to the sphere of commerce. The former can only be accomplished by the use of scientific methods; the latter requires commercial methods. The exploitation of new products by exaggerating their merits and repressing knowledge of failures is one of the most dangerous forms of quackery. The introduction of new brands to the medical and pharmaceutical professions, in the advertising pages of the medical and pharmaceutical press, shows business sagacity and enterprise. But it should always be remembered that: "Commercialism is not a word in good repute in connection with the practice of medicine (including pharmacy or the manufacturing of medicine for therapeutic use). Not that it is wrong for a physician (pharmacist or manufacturer) to make money if it is done honorably; nor is it beneath the dignity of an ethical member of the medical (or pharmaceutical) profession to apply honorable business principles in obtaining just remuneration for services rendered; but it is wrong, and degrading, for him to subordinate all he may do to commercialism. The making of money is the mainspring of commerce, but medicine (including pharmacy) in its scientific as well as altruistic ideals, has a higher and nobler aim. The laborer is worthy of his hire, but in medicine the latter is only an incidental, not the ideal, end and aim. If it were, our widely uttered claims of being a liberal profession are false, and a large proportion of what we may call the non-scientific portion of medical literature, including most addresses to graduating classes in medicine (and pharmacy) and to societies, is the veriest talking for effect."[2] Taking these facts into consideration, it becomes evident that the medical profession itself is the most to blame for the present unsatisfactory condition of materia medica knowledge, especially as related to new products, and that the only cure for "commercialism" in pharmacy, including that of the manufacturer and the corner drug store, is to discriminate against those who violate the professional ideal, and in favor of those who conform to professional and scientific requirements, by specifying the products of the latter exclusively.

PLAN OF CO-OPERATIVE INVESTIGATION, STANDARDIZATION, ANALYTIC AND PHARMACODYNAMIC OBSERVATION.

Rules.

1. A manufacturer or dealer who desires to market a product under the auspices of the Bureau of Materia Medica shall make application in writing, stating the name of the product, the name of the process, the name of the brand, stating also what claims have been made for it as a therapeutic agent, and on what authority, and promising to abide by the following rules:

2. If the product is one for which a formula has not been published whereby it may be duplicated and become a matter of scientific record, the manufacturer shall provide the Bureau with such formula. The working formula of the manufacturer is not required, although for scientific and ethical reasons it should be published. But a formula must be given by which the product may be reproduced by any person skilled in the art, so that it may be placed on a basis similar to quinin, sodium carbonate, and other official chemicals, or to fluid extract of belladonna, tincture of opium, or other official galenicals, and thus be subject to proper classification and standardization, and fitted for intelligent therapeutic use.

3. The manufacturer shall furnish a sufficient quantity of the product for its scientific examination by the Bureau, which shall, with the manufacturer's aid, fix a standard for it upon which all future claims shall be based.

4. The Bureau shall then announce the fact that the article is under the auspices of the Bureau, and shall declare the standard adopted, and send this information to at least one medical and one pharmaceutical journal for publication.

5. If the article is a new remedy, or extrapharmacopeial preparation, the Bureau shall collect all available information concerning it, and shall send it, together with material for investigation furnished by the manufacturer without charge, to a selected number of medical institutions, hospitals and clinics for experiment to determine its nature, pharmacodynamic properties, and medical uses, and shall collect the results for classification and study. If the nature of the results are sufficiently promising to warrant the Bureau in retaining the product under its auspices, the name of the article shall be placed upon the list of the bureau. If the test shall prove unsatisfactory, the manufacturer shall be informed of the fact and the article dropped by the Bureau.

6. The Bureau shall, at irregular intervals, purchase on the open market, samples of the articles marketed under its auspices, and submit the same to scientific examination, to ascertain whether the standard agreed upon is being maintained.

8. If at any time the scientific examination shall prove the article to have fallen below the adopted standard, the manufacturer shall be notified and permitted to correct the error by informing the trade and replacing the stock of the article in the hands of dealers—the stock bearing the number of the batch from which the article was taken.

9. Should the manufacturer refuse to correct the error, the Bureau shall drop the article from the list and inform the trade that the article has been dropped, and that the batch examined is below standard.

10. Should willful adulteration, sophistication, or depreciation of quality be proved against the manufacturer, the name of the manufacturer shall be dropped from the list of affiliated manufacturers, and the profession and trade informed of it.

11. The claims made in advertisements for the article shall be frequently subjected to examination and, if erroneous statements are found therein, the manufacturer shall be notified; and, if such error be repeated, the article shall be dropped and the profession and trade so informed.

12. Any three affiliated manufacturers shall have the privilege of appealing to the Bureau in writing, requesting the scientific examination of any article on the list. If the article shall be found below standard, Rule 9 shall apply. The fee for this examination shall be paid by the challengers.

13. The manufacturer of an article being marketed under the auspices of the Bureau shall have the privilege of stating that fact on the labels of the article, and in advertisements relating thereto, but this shall in no way be construed as an endorsement of the claims to therapeutic value. It means only that the article conforms to the standard of strength, quality and character.

14. The Bureau shall classify extrapharmacopeial preparations generically and specifically, giving a name to each new genus and species when required. It is of course understood that the manufacturers are free to employ brand names in connection with the specific names to designate the varieties emanating from their respective laboratories; but the manu-

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[2] Editorial, Jour. A. M. A., Feb. 2, 1901.

facturers should use care on their part not to force the medical public to use their brand names as the generic or specific names of the products. They should always provide their preparations with identifying names which may be employed in common by all manufacturers of the same article. Unless this precaution be observed, the manufacturers can blame no one but themselves if they are taken at their word, and their brand names are adopted as the generic or identifying names of the products themselves. become incorporated in the common language as material nouns, and thus sink into the public domain. The courts of Great Britain have, within about a year, made void the registration of "Formalin" and "Vaselin" as trade marks on the ground that the function of the trade mark is to point out the manufacturer, and the name of the goods, whether a coined name or not, is required as a noun of the language.

APPENDIX.

Under Act of Congress approved June 4, 1898, a commission was appointed to revise the statutes of the United States relating to patents and trademarks. The report of this commission is now before Congress, and is known as Senate document No. 20. It has been printed. By referring to page 31 of this report it will be observed that many foreign countries exclude from patent protection inventions relating to medicines. The report states that they are "excluded in Germany, France, Austria-Hungary, Italy, Japan, Denmark, Norway, Sweden, Portugal, Russia, and a number of other countries. Other classes of inventions excluded from protection in many countries are foods, chemical products, and inventions relating to war material." "The exclusion from protection of inventions relating to medicines or foods does not generally extend to those relating to processes or apparatus for their manufacture." "In all foreign countries which exclude chemical products from protection, except Switzerland, inventions relating to chemical processes may be patented, and in nearly all such countries it is expressly provided by law that a patent for a chemical process by which a new chemical product is made shall in effect cover such product, unless it is shown that such product was in fact made by some other process." (Read in this connection the second paragraph of this prospectus.) "It has been urged before us, both at the hearings of the commission, and in written communications laid before us, that the United States law should be amended to exclude from patent protection both medicines and chemical products generally, at least so far as such inventions are the inventions of subjects or citizens of the foreign countries which exclude these classses of invention from patent protection, and it has been contended that subjects or citizens of foreign countries should not be permitted to receive in this country patents for inventions which are not patentable in their own country."

On page 100 of the report appears a paragraph which shows that the claims made by some that the invention or coining of a word gives the inventor a natural right, or right at common law, to prevent others from using the word, are not supported by the law.

"Criminal prosecutions being had under the statutes of 1870 and 1876, in the southern district of New York and the southern district of Ohio, and a difference of opinion having been certified to the Supreme Court on the question whether these acts of Congress on the subject of trademarks were founded on any rightful authority in the Constitution of the United States, the cases came before the court for review at the October term of 1879. (Trademark Cases, 100 U. S., 82.) The court showed with admirable clearness that because of the distinction between patents and copyrights and trademarks, pointed out in the decision, the power of Congress to enact the law could not be derived from that paragraph of Article I, Section 8, of the Constitution which relates to authors and inventors, since the right of ownership in trademarks is created by *adoption* and not by authorship or invention."

On page 91 it is shown that "The adoption of a trademark or device to indicate the manufacture or origin of a certain article does not give any right to the exclusive production of the article so marked. Any article of manufacture, unless it be protected by a patent, may be made and sold by any person."

On page 107 appears the statement that "The representation of a star or the word 'star' has been registered in the United States Patent Office as a trademark for nearly every recognized class of goods, having been registered nearly 400 times."

On page 108 occurs the following: "It will, of course, be understood, that a star or an anchor or any other mark, may be used by manufacturers of or dealers in different classes of goods without conflict. For instance, the use of a star as a mark for tobacco does not conflict with the use of a star as a mark for matches or dress braid. Antipyrin, phenacetin, and the names of most all the other German synthetics have been registered as trademarks. If the claims of the manufacturers had been sustained by the courts then these names could have been held for all time as private property and the monopoly created by patents on products and process continued after the expiration of patents for an indefinite time. The decision of the United States Supreme Court in the Singer Sewing Machine case, in 1895, prevented such monopoly. This decision reads as follows:

> The result, then, of the American, the English, and the French doctrine universally upheld is this, that where, during the life of a monopoly created by a patent, a name, whether it be arbitrary or be that of the inventor, has become, by his consent, either express or tacit, the identifying and generic name of the thing patented, this name passes to the public with the cessation of the monopoly which the patent created. Where another avails himself of this public dedication to make the machine and use the generic designation, he can do so in all forms, with the fullest liberty, by affixing such name to the machines, by referring to it in advertisements and by other means, subject, however, to the condition that the name must be so used as not to deprive others of their rights or to deceive the public, and therefore that the name must be accompanied with such indications that the thing manufactured is the work of the one making it, as will unmistakably inform the public of that fact.

The manufacturers of secret nostrums congratulated themselves that this decision did not apply to them. However, it is reasonable to suppose that it does include them, in the light of the above facts, and logical conclusions therefrom set forth in this prospectus, and in the light of the following decisions of the courts on the subject.

> The name of a secret preparation may be used by anyone for goods actually prepared according to the recipe, for they are the goods indicated by the name, whether prepared by the original inventor of the recipe, or his successors in business, or not. Until the secret is discovered or betrayed the goods of the original inventor or his successors can be the only goods to which the name is applicable, or which are denoted by it; but when other people can make them, the difficult question of fact arises, whether the name is merely that of the goods themselves, or that of the goods of the kind prepared or sold by the original inventor or his successors in business. This was well put by Fry, J., in the Angostura Bitters Case (Siegert *vs.* Findlater, 7 C. D., p. 813), "I cannot say," the learned judge said, "that Meinhard may not, if he can, make a bitter identical with the plaintiffs', and if he hoes, I cannot prevent him from selling it as Angostura Bitters." It is to be observed that the person who produces a new article, and is the sole maker of it, has the greatest difficulty (if it is not an impossibility) in claiming the name of that article as his own, because until somebody else produces the same article, there is nothing to distinguish it from. No distinction can arise from using the name of the class, so long as the class consists of only one species, for then the name of the species and the name of the class will be the same. (The Law of Trade-marks, by D. M. Kerly, published by Sweet & Maxwell, 1894.)
>
> There must be some word or sign, or device other than a generic name and words of descriptive quality. (Commissioner's decision, 1881, p. 97.)
>
> So the words, "Night Blooming Cereus" were held to be invalid as a mark, being the proper descriptive appellation of the article. (Phalon *vs.* Wright, 5 Phila., 464.)
>
> The same rule defeated the adoption of the words, Desiccated Codfish. (Harris, Beebe & Co.)
>
> The policy that the mere use of a name to designate an article would give to those employing it the exclusive right to designate such article by such name, would be giving a copyright of the most odious kind, without reference to the utility of the application or the length of the title, and one that would be perpetual. Neither the Trade-mark Law, nor the Copyright Law, nor the Patent Law, affords any such right, or, under the pretense of the same, allows any one to throttle trade under the alleged sanction of law. (Browne on Trademarks.)
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> No one can claim protection for the exclusive use of a trade-mark or trade-name which would practically give him a monopoly in the sale of any goods other than those produced or made by himself. If he could, the public would be injured rather than protected, for competition would be destroyed. Nor can a generic name or a name merely descriptive of an article of trade, of its qualities, ingredients, or characteristics, be employed as a trade-mark, and the exclusive use of it be entitled to protection. (Canal Co. *vs.* Clark, 13 Wall, 323.)
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> We of course understand that when a name is coined by one who *uses it as a trade-mark* upon a particular article, if that name is originally a lawful trade-mark, its subsequent adoption by the public as a common appellative cannot take away the right already acquired. (Celluloid Co. *vs.* Cellointe Co., 32 Fed. Rep., 98.) But "When an article is made that was theretofore unknown, it must be christened with a name by which it can be recognized and dealt in, and the name thus given it becomes public property. and all who deal in the article have a right to designate it by the name by which alone it is recognizable." (Leclanche Battery Co. *vs.* Western Elec. Co., 23 Fed. Rep., 227.)
>
> A word which is the name of an article, or indicates its quality, cannot be so appropriated. Every one has the right to manufacture the same article, and to call it by its name or descriptive character. (Phalon *vs.* Wright, Am. Tr. Cas., 308.)
>
> It is only the seductive name that they claim as their exclusive property, and doubtless from the experience in its value in the extension of their sales. This, however, is a species of property which in my opinion is unknown to the law, and that can only be given to one by an infringement of the rights of all. . . . It has been repeatedly held that a *trade-mark cannot be obtained in a name where it is the proper name for the article*, as in the case of Schnapps, the subject of the controversy in Wolf *vs.* Goulard, or where it has by general use become the proper name of an article which all manufacturers may use, as in the case of Dr. Johnson's Yellow Ointment, Godfrey's Cordial, and Essence of Anchovies.

HOSPITAL CARS FOR RAILWAY SERVICE.[*]

W. L. ESTES, A.M., M.D.

CHIEF SURGEON OF THE LEHIGH VALLEY R. R.
SOUTH BETHLEHEM, PA.

The end of the nineteenth century exhibits marked improvement in the means of alleviating suffering and for saving life. The sick and wounded in the last two wars have had furnished them life-saving appliances and means of transportation never dreamed of in former times. Public sentiment is so exercised in the matter of efficient attention to the needs of the sick and wounded in warfare that it is astonishing that people think or do so little in ordinary civil life in the matter of efficient first aid and comfortable transportation for the much larger number of persons who suffer injury on our railroads. The Interstate Commerce Commission shows that, in round numbers, there were 51,743 railroad casualties to persons in the year just ended. There were 7123 fatalities and 44,620 injuries. The total casualties to the British army in the war in South Africa, up to date, amount to about 48,000.

An interesting compilation of the number of persons killed and injured on the railroads of the United States during the year ending June 30, 1899, has been made by the Interstate Commerce Commission and furnished to the insurance press. During the twelve months 7123 persons were killed and 44,620 injured, a total of 51,743 casualties. In summarizing the accidents, it is found that 1 out of every 420 employees of railroads was killed, and 1 out of every 27 was injured. Of trainmen, engine drivers, firemen, conductors, etc., 1 out of every 155 was killed and 1 out of every 11 injured. One passenger for every 2,189,020 carried was killed and 1 injured out of every 151,998 carried. During the year 239 passengers were killed and 3442 were injured.

When one reflects that railroad casualties are continually going on, and will continue to occur, while those of warfare are intermittent and frequently far apart, as happily wars are not frequent in modern times, it is astonishing to know that scarcely any efficient system for assisting and caring for injured persons exists on many of the railroads in America. The purpose of this paper is briefly to consider the suggestion of furnishing properly-equipped hospital-cars on railroads for the purpose of caring for the injured and sick persons along their lines, and especially to incite discussion of this important subject from thoughtful, earnest, practical surgeons who are connected with railroads.

The experiment has been tried on a few lines. I know of the Long Island Railroad, the Lehigh and Susquehannah branch of the New Jersey Central Railroad, and and I am told that the Plant System also has such cars. The Missouri, Kansas and Texas Railroad has in preparation a car to be used for transporting sick and injured from an emergency hospital to their general hospital. There are probably others of which I know nothing.

I have been able to obtain very little data as to the efficiency and value of the few hospital-cars in use, so I shall have to discuss the subject purely theoretically in the light of the well-known necessities for surgical aid on railways.

1. *Expense.*—A very important matter when it comes to the adoption of the system on a railroad line will be the expense. For the car itself it may be estimated that $2500 or $3000 will be spent, the expense of its equipment will depend on how complete its appointments shall be made. If the system shall displace other methods of rendering first aid and be more efficient, there must be, besides beds and stretchers, a stock of aseptic dressings and antiseptic appliances, with simple splints, bandages, etc., which would doubtless amount to $300 to $500. At a low estimate, therefore, $3000 would be required to build and equip each car. Besides, the cost of running and transporting the cars over the line would be considerable in the course of a year.

2. *Range of Efficiency.*—Recently I asked an experienced dispatcher about this matter, and in answer to the question, "Under the ordinary conditions which prevail on a busy railroad line, how fast time could you guarantee a hospital-car in moving from one point to another?" He replied, "Twenty-five miles an hour would be about the limit." In other words, it would require about an hour to reach an injured man if he were twenty-five miles away from where the car was located. The reason for this is that the car would have to be sent "special," usually with a slow locomotive, and with chances of failing to get "right of way," or be attached to one of the lesser trains, which are usually slow. The fast express trains are too heavy usually, and their running time too close to add to their burdens; to attach a car to the limited or to side-track the limited for the car running "special" would not be thought of under ordinary conditions. As a means of rendering first aid, therefore, a hospital-car would be too slow to be efficient in a great many, perhaps the majority of instances.

3. *Location of the Car and the Number Required on a Line.*—As noted above, twenty-five miles an hour would, under ordinary conditions, be the expectation of hospital-car service. This might be in two directions, and so make the range of one car fifty miles. In order, therefore, to assure this service of one hour from the time of its call, there must be one car for every fifty miles of track. When there are a number of lines branching out from a common center, the proper location of the car would naturally be at the center or the point of convergence of the lines. One car under such conditions might serve for a much larger territory. Under the ordinary conditions of trunk lines, however, one car for every fifty miles would be necessary to give service with any degree of promptitude. For a main line of 500 to 800 miles ten to sixteen care would be necessary. Then there would be yards and branches to be cared for, and these would require, for a 500 or 800 miles' system, the addition of five or six cars—a total of fifteen to twenty-two hospital-cars. Yards, reshipping points, crossings, junctions and termini are generally regarded as especially liable to accidents. Wreck cars are, as a rule, not evenly distributed over a line. It would doubtless be well to follow this rule with hospital-cars. Perhaps with every wreck train a hospital-car might be located. I find that about ten wreck cars are allowed to a road of 500 miles of main line track. To follow this last suggestion would provide about the same number of hospital-cars as the first idea of distribution required. Putting them with the wreck cars would assure prompter service in case of serious catastrophes, perhaps; it would delay them, however, in many other instances. They would have to be uncoupled and detached from the wreck train when the hospital-car alone was required.

4. *What Provision Shall be Made for Surgical Service on Hospital-Cars?*—If the cars are to be properly efficient, a surgeon or surgeons must accompany them on all expeditions of mercy. To assure this, it would be

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[*] Read at the Annual Meeting of the American Academy of Railway Surgeons, held at St. Paul, Minn., Sept. 5 and 6, 1900.

necessary to recast the ordinary arrangement of local surgeons along a railroad. It might be made a rule that the surgeon in whose territory the accident occurred should serve on the car. In the East, however, it is rare for one local surgeon to have charge of a territory of twenty-five miles of road. He might render first-aid and then turn the patient, or patients, over to the next local surgeon on reaching his territory, so that in a transportation of twenty-five miles two surgeons might have to officiate. It is rare on most roads to find, in every section of twenty-five miles, a hospital or place of permanent treatment to which the injured person could be carried. The journey of the car would have to be much longer in some instances. The first surgeon to render aid would have to go far afield, and perhaps leave his location for many hours, or else there would be a large number of changes of surgeons en route. This would, in the last instance, work no end of confusion. Suppose, however, the rule were made that the first local surgeon to render aid must accompany the patient to his destination. The time this would require would be a very serious matter to a surgeon, without any direct pecuniary return for his work and time. Grant, however, that the railroad company would pay for the surgeon's time and work. If it were at the usual rate of fees, very few railroads would stand it. If it were at contract rates, very few efficient medical men would stand it. This service would, to be efficient, require salaried surgeons, and the expense would be very heavy if the men employed were properly qualified. I believe no railroad would stand such expense.

Another arrangement might be made, and in some instances it would not prove inhumane not hurtful, viz.: a local surgeon might render first-aid, see the patient aboard the hospital-car, and put him in such position and condition as would seem proper at the time, and then entrust him on his further journey to a lay employee—a brakeman, flagman or conductor. Surely some one ought to remain in the car with the patient. If it be a lay employee, he must give up his other occupation during this time; this frequently required might also make a serious expense, and be in a great many instances inexpedient and dangerous.

Another point is: if the car has to leave its own territory, as it must do in order to prevent the evil of transshipment, and very serious discomfort to the injured person in many cases, what provision shall be made for caring for possible accidents during its absence? This might be a very serious matter. It would not do for the next car on the line to take its place, as this would only transfer the evil. It is therefore obvious that a hospital car must be supplemented by other provisions for caring for injured persons.

If the foregoing points are well taken, it is evident that in order to equip a railroad line which has a main line of as many as 500 miles with hospital cars in sufficient number to begin to do efficient service in the majority of emergencies, it would cost from $30,000 to $50,000, and the maintenance and running of these cars would also add materially to the annual expense account. The personnel and the usual arrangement with local surgeons would have to be materially changed. Lastly, and *especially*, prompt and rapid first-aid by means of hospital-cars, under the ordinary conditions, could not be rendered in a large number of individual emergencies. No doubt the sentimental value of a system of hospital-cars for emergency work would be very considerable, but as practical men can we advocate any such system when we know there are other and prompter means of succoring injured people, and which are on this account and perhaps in other respects more efficient?

The argument that a hospital-car furnishes seclusion, comparative comfort and facilities for proper dressings, and even operating-room facilities is frequently used. I am willing to grant the first point, namely, that the car furnishes seclusion and comparative comfort, without argument, *provided the car is at once* available. I have shown, however, that in many instances this will be utterly impracticable. The value of the other points of the argument are very doubtful. We all know it is much more important that the man who does the first dressing shall have the proper training and experience and know the best modern way of handling injuries than that all proper facilities for doing the dressings shall be provided to a less competent man. As I have said, in writing on the "Treatment of Compound and Complicated Fractures," the fate of the injured person depends very greatly on the man who does the first dressing. I doubt whether it is best for a seriously injured person to put him in the hands of an inexperienced and poorly trained aseptician with all the facilities for doing first-rate permanent work. I mean by this that the inexperienced man will thus be encouraged to attempt dressings which are intended to be the final restitution and rehabilitation of compound fractures, of very severe lacerations, or evulsions. Very rarely, except in minor cases, ought operations be attempted in hospital-cars.

It seems to me that the provisions and effort should be, in handling injured persons on the railroad, to furnish such simple aseptic dressings and apparatus as will prevent any further soiling or infection of the wounds, prevent or control hemorrhage, immobilize injured parts, and to transport the injured person where he may have careful and skilled permanent treatment just as soon as it can possibly be furnished him. Hospital-cars can not do all this. In this age of multiplicity of stationary hospitals along railroad lines, the publicity and some added discomfort in using the old manner of transporting injured persons are far less harmful than delays in delivering them at hospitals where they may find rest and permanent treatment at the hands of experienced men.

Is there then no field, no call, for hospital-cars on railroads? I think there is: 1. On a railroad composed of a number of short lines radiating from a common center, when the "center" has hospital facilities and the short lines have none, the car may be efficient for conveying relief in apparatus, a skilled surgeon and means of transportation. 2. Suburban short lines could also use a hospital-car efficiently. In both these instances one or two cars would suffice, and these roads could afford to employ a skilled surgeon to accompany the car. In both instances the object would be first-aid and the bringing of the patient to the hospital base, namely, the city in which the terminus might be. 3. Hospital-cars would be very efficient on railroads which have a system of small emergency hospitals along the lines, and one or two "base hospitals" at the termini. They would be used in transporting patients from the emergency hospital to the base or principal one. Dr. Yaney, chief surgeon of the Missouri, Kansas and Texas Railroad, informs me that his road has a hospital-car in preparation for this very purpose. 4. It may be considered utopian and very far ahead of the times, but an especial need for hospital-cars is for—intermittent—use on through express trains, to transport sick and injured passengers.

No doubt all of us can recall many instances of having seen and heard of cases of illness clearly contagious or infectious on crowded trains, in such conditions and locations that they must communicate the specific discases. It is a matter of the commonest experience for persons suffering from pulmonary tuberculosis to travel long distances on railway coaches. Sleeping-cars are especially apt to be selected for these ailing persons. Efficient disinfection of coaches, especially sleeping-cars, is rarely practiced. It is astounding when one reflects on the subject that sanitarians have been so dilatory and slow to appreciate the great danger to the traveling public from the contaminations and infections of railway cars, and that no laws nor rules have been passed to meet this crying need of modern times. The various states have passed stringent laws requiring the careful embalming, disinfection and hermetic enclosure of all corpses of persons dying of contagious diseases, during their transportation on railroads. Individuals while still alive may travel without let or hindrance, suffering from any one of the contagious or infectious diseases on any railroad in the United States, and as a rule are placed in the very cars which are most sure to be frequented and most difficult to disinfect.

Understanding as we do the usual methods of transmission and the specific cause of pulmonary tuberculosis, it is amazing that no restriction has yet been placed on the transportation of persons who are in advanced stages of this disease. It would be a barbarous prohibition to prevent tubercular persons from using railroad cars in order to go whither their one chance of recovery might demand they should be. It seems to me the only proper, safe, comfortable and sanitary solution of this problem of contagious and infectious disease-spreading custom is for railroads to furnish properly-equipped hospital-cars which may be used to transport any doubtful case of disease to its destination, and so separate it entirely from the other travelers on the train. In order to make this system efficient, the co-operation of physicians generally must be obtained, and the various states should pass laws requiring the use of isolating or hospital-cars for sick persons. When such cars are known to be in use on a railroad line, a physician whose patient was about to make a journey for any reason would simply notify the proper railroad authority, and he would have the hospital-car prepared and attached to a given train. The patient and his attendants would have seclusion, more comfort, and efficient treatment might continue, without any danger to other people on the train.

These cars should be so constructed as to be inconspicuous on the outside, and have the simplest fittings inside commensurate with comfort and efficiency, and everything inside should be so arranged and constructed that thorough disinfection after, and proper sanitation during, the use of the car might be obtained. Two or three cars of this kind would be all that were necessary on a line of a thousand miles of main track. If they were properly stationed, they might also prove very efficient in cases of serious catastrophes along the line.

I wish it clearly understood that in recommending hospital-cars for express trains I do not advocate the abrogation of the usual ordinary laws of isolation which nearly every community has in vogue for the purpose of preventing the spread of contagious and infectious diseases, nor do I recommend common and frequent transportation of these cases, but as they so often travel surreptitiously, it would be far better to have proper provision for this transportation, and, under stress of circumstances or necessity, they might safely thus be carried. When, furthermore, it was known that proper provision was made for their comfort and care, the sanitary authorities might permit removals which would be of great benefit not only to the sufferer but to communities. The value of these cars for transporting tubercular persons, those having typhoid fever, and those having some forms of specific enteritis can not be questioned, both for the infected person and for the traveling public as well.

A RULE FOR COMBINING CROSSED CYLINDERS.

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One of the stumbling-blocks of the students of optics lies in the proper transposition of different combinations of spheres and cylinders. It always requires long practice at the test-case and no little figuring to become familiar with and able to make the proper combinations. Dr. James Thorington, of Philadelphia, in his excellent work on "Refraction," recently published, has greatly simplified these problems for the student by formulating set rules for transposing combinations of spheres, cylinders and of a sphere and a cylinder. In working out mathematical problems of this character in optics the easiest and quickest way to master them is by rule, depending upon experience to sink the rules in the background.

As a student, I could find no rules in the literature for the transposition of plus and minus cylinders with opposite axes into a sphero-cylinder, and worked out the following formula, which has been of great assistance to me and which was published this year in "Retinoscopy," by Dr. Thorington.

Formula.—To transpose crossed cylinders into a sphero-cylinder: "The cylinder is the sum of the two cylinders with the sign and axis of one of the cylinders. The sphere is the strength of the other cylinder with *its* sign."

Example:

— 1 c. axis 180° ⊃ + 2 c. axis 90° =
— 1 s. ⊃ + 3 c. axis 90°, or
+ 2 s. ⊃ — 3 c. axis 180°.

The use of the lighter and thinner lens is always to be aimed at and will usually give the best result; occasionally, however, the heavier lens will be more satisfactory, and rarely there are cases where only the crossed cylinders will be accepted.

It is in retinoscopy especially that the student will find rules of this character of great value, for there are always two meridians to be reduced to a sphere or a sphero-cylinder. The experienced refractionist will not need them.

Viavi Remedies.—These secret nostrums have undergone an airing in connection with a recent inquest in Liscard, England. The public analyst to the County of Chester reports that the liquid furnished him contained 30 per cent. of sugar, together with tincture of hydrastis and morphin. The pills were made of sugar, aloes and probably some colocynth. It appears that these preparations are as much exploited in Great Britain as they are in this country, it being the custom there as here to employ the wives of clergymen, and other socially respectable individuals to act as local agents for their sale. The *British Medical Journal* remarks that since it is shown that these preparations contain morphin, they come under the provision of the pharmaceutical act regulating the sale of poisons, and their agents and venders may find their business conducive to serious consequences to themselves.

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HYSTERICAL SENSORY APHASIA—WORD-DEAFNESS—IN A CHILD.

Although we do not as yet know the ultimate nature of hysteria, we have long since learned that it has nothing whatever to do with the uterus, after which it was named. An ample experience has taught that it may occur also in men, and it is fully appreciated that it may develop even in children—boys and girls alike. From existing knowledge and from analogy it may be safely inferred that hysteria is a nutritional neurosis, the aberrant function resulting from as yet undemonstrable changes in nerve-cells primarily susceptible in greater or lesser degree. These changes are probably due to processes engendered within the body and only indirectly by agents introduced from without. The inherent susceptibility of the nerve-cell would appear to be the primary essential factor, and it would be for this reason that hereditary influences are so important in an etiologic connection.

Whatever the mechanism of hysteria, it would seem that there is scarcely any disorder that it may not simulate, and at times so cleverly that even the expert may find difficulty in distinguishing the counterfeit from the genuine. It is not implied, and it is no longer believed, that hysteria is a simulated disease, although there can be no doubt that a tendency to exaggeration or deception is often a not inconspicuous feature. While the diagnosis, therefore, is at times difficult enough in adults, it may in children be practically impossible within the bounds of certainty. A case in point has recently been reported by Dr. Ludwig Mann.[1] The patient was a girl, 7 years old, in whom progressive indistinctness of speech and apparently complete loss of hearing had been noticed in the sequence of some emotional disturbance. More careful examination. however, disclosed that the child could hear, but failed merely to comprehend spoken words, although intelligence in general was present. In addition, there was a certain degree of paraphasia. The child could not write spontaneously nor from dictation, although she could copy printed and written matter. She was apparently unable to read intelligently. No lesion of the ears, and no other evidence of nervous disease was discoverable. Because of the absence of other symptoms of a lesion sufficiently extensive to account for those present, of the variability of some of the symptoms, of the mental attitude and condition of the patient, and of the development of the symptoms in the sequence of emotional disturbance, the conclusion was reached that the condition was one of hysteria. The treatment consisted in painful applications of the faradic brush to the lips and the face, but it was at first unattended with improvement. It was then decided to isolate the child, and in addition to painful electrization, cold packs and douches were employed and instruction in speech was given. Improvement now set in and, while at the beginning slow, it subsequently became more rapid and advanced.

The case is believed to be unique, for although cases of hysterical deafness have been reported, word-deafness or sensory aphasia of hysterical origin has hitherto been rarely, if at all, described. Charcot has reported a case of hysterical motor aphasia and suggested the possibility of hysterical word-deafness. Paraphasia also has rarely if ever been described as an hysterical manifestation. The diagnosis in this case has been questioned by Oppenheim,[2] who gives reasons for believing that an organic lesion may really have been present. He points out the possibility of a circumscribed lesion of the temporal lobe giving rise to the symptoms present and of the paraphasia being due to a natural want of development of the speech-functions in a child. The inconstancy of the symptoms he considers as favoring organic not less than functional disease, while the mental attitude of the patient may be looked upon as an individual peculiarity. Too much importance should not be attached to the results of treatment, inasmuch as they are just such as could be expected, as the developing child is particularly susceptible of reeducation. We must confess, however, that we are not convinced by these arguments, although it must be admitted that the diagnosis is not easy. In the first place there is always something in the tout ensemble of a case that eludes delineation and can be appreciated only by those under whose immediate observation it comes and of course is lost in a merely didactic consideration. In the second place the absence of provocative etiologic factors, the mode of onset, the absence of paralytic or irritative phenomena, and of interference with consciousness render less likely the presence of organic disease. The case, thus, is of exceeding interest, even though it should prove not to be of hysterical origin.

Curschmann, in his monograph on typhoid fever, in Nothnagel's "System of Special Pathology and Treatment," refers, it is true, to the case of a girl, 10 years old, in whom, during convalescence from a severe and protracted attack of typhoid fever, ataxic aphasia suddenly developed, with preservation of consciousness and of all other functions, and especially without paralysis in the extremities. Speech began to return in the course of two weeks, and after the lapse of five weeks was completely restored. In a second case also ataxic aphasia developed in the third week of a severe attack of typhoid fever, without loss of consciousness. Improvement set in after the lapse of a week and was almost complete in the course of a few weeks. In this case, however, there was, besides, some ataxia in the lower extremities, though with preservation of sensibility and of knee-jerks, but this also disappeared entirely in the course of ten weeks.

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[1] Berliner Klin. Woch., 1901, No. 5, p. 135.

[2] Berliner Klin. Woch., 1901, No. 7, p. 203.

The fact is not to be overlooked that in both of these cases the complication arose in the course of an acute infectious disease attended often with profound changes in the blood.

THE ETIOLOGY OF TUMORS IN HYPERPLASTIC INFLAMMATIONS.

Careful review of the evidence before us of the parasitic origin of malignant tumors, by competent authorities such as Lubarsch, Councilman, Adami, and others, demonstrates that there is as yet but little real support for the parasitic theory. The recent work of Gaylord, noticed in The Journal, has not been officially published in full and so can not be considered at this time. Inoculation and cultural experiments and persistent study of the tissues of tumors for parasites have been faithfully carried out, the results being largely of a negative character. Had similar zeal and time been spent in a search for the cause of diseases that are more likely infectious, such as smallpox, syphilis and measles, it may be that more positive results might have been secured. Of course this effort to find a parasitic origin for malignant tumors has extended greatly our knowledge concerning many phases of tumor growth. The parasitic theory not having been satisfactorily demonstrated, Cohnheim's theory, at least as regards malignant tumors, being quite generally abandoned, and Ribbert's views no longer easily defended, investigators again are taking kindly to the old irritation theory of Virchow. In the case of carcinoma, Hauser and Hansemann assume a primary disease of the epithelium which expresses itself in an excessive multiplication of the epithelial cells. This disease may be the result of irritation, and by irritation is understood trauma in its broadest sense: the result of mechanical injury, the effect of bulky scars, continuous suppuration and inflammation, etc. The well-known instances of carcinoma developing in the smoker's lip, in the chimney sweep's scrotum, and in the biliary passages when affected with gall-stones, as well as numerous other similar examples, are recalled at once. Birch-Hirschfeld, in 123 cases of primary carcinoma of the gall-bladder, found calculi in 113; in 13 cases of secondary carcinoma there were calculi but twice. Cullen and others point out the significant relationship between carcinoma of the cervix and pregnancy—only a small percentage of the cases have not borne children.

From India we learn that the natives of Kashmir show a large number of cases of carcinoma of the thighs, probably the result of repeated burnings by portable stoves. Carcinoma frequently develops in pre-existing lesions often due to trauma or other factors such as leukoplakia linguæ, leukoplakia urethræ, psoriasis, fistulæ, syphilis, and tuberculosis. It seems that carcinoma not infrequently develops on the basis of a tuberculous lesion. In these instances it would seem as if the previous lesions favor the development of the primary disease of the epithelium that Hauser, on which Hansemann and others lay so much stress. It is a noticeable fact that the processes that precede carcinoma belong to the so-called hyperplastic inflammations and are characterized by cellular activity, especially in one direction, namely multiplication. Indeed, Le Count,[1] in his recent thorough study of the genesis of carcinoma of the Fallopian tube in hyperplastic salpingitis, points out that it is often impossible to draw a sharp line of distinction between purely inflammatory glandular hyperplasias and tumors. Le Count reviews the literature bearing upon this interesting and difficult problem in connection with growths developing upon various mucous membranes. He shows that great confusion has arisen in regard to tumors of the Fallopian tube, especially because of the failure to recognize that a diffuse hyperplastic inflammation may exist, which in many instances is quite distinct from tumor-growth. This confusion has in part been due to the fact that hyperplasia is so frequently combined with sacto-salpinx. Le Count cites several examples of growths in the tubes which were removed during the transition between hyperplasia and tumor. These considerations would seem to suggest that any factor that stimulates cell proliferation may lead indirectly to carcinoma, and that great care should always be used in interpreting hyperplastic conditions, especially of mucous membranes, as there are numerous forms of hyperplasia which do not merit the name carcinoma, although they may become the starting-point of carcinomatous proliferation.

SOME OF THE BLOOD-CHANGES ATTENDING TYPHOID FEVER.

The industry with which the study of the blood has been pursued in recent years is yielding rich fruit, and the results, while by no means complete, have already contributed much to the facility and the certainty of diagnosis. The field is, however, a large one and there is yet much virgin soil to be tilled. To confine ourselves to typhoid fever, it has been shown that, ordinarily, during the course of this disease, the number of corpuscles, both red and colorless, as well as the hemoglobin, is reduced in amount. In the presence of complications, however, such as perforation, peritonitis, suppuration and the like, the leukopenia is replaced by a leukocytosis, and this fact may prove of great diagnostic importance. Of the approved value of the Gruber-Widal agglutination-test nothing further need be said. There occur, however, certain changes in the blood that are probably responsible for a general hemorrhagic state or for the dissolution that results in the development of hemoglobinemia and hemoglobinuria. These manifestations are, it is true, uncommon and their exact mechanism is not definitely understood. When they occur they stamp the case as one of grave character. Their investigation is, therefore, all the more desirable and all the more to be encouraged.

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[1] Johns Hopkins Hospital Bulletin, 1901, xii, 55-68.

Hemorrhage from the nose and from the bowel are well-known features of typhoid fever. Epistaxis is observed most commonly in the period of incubation or in the initial stage of the fever. It is due to hyperemia of the nasal mucous membrane or rupture of degenerated blood-vessels. It occurs in from 6 to 8 per cent. of cases. Hemorrhage from the bowel is one of the most important complications of typhoid fever, being observed in from 4 to 6 per cent. of cases. Occurring early—within the first two weeks—it is probably due to the hyperemic and spongy condition of the affected tissues of the intestinal wall. At a later period it must be attributed to erosion of vessels by ulcerative processes in the solitary follicles and Peyer's patches.

Apart from such conditions, hemorrhage may take place from all possible parts of the body as a manifestation of the hemorrhagic diathesis. This is a rare condition and it appears to occur only in grave cases, or it may be it is that which gives them this character. The bleeding is likely to take place first from the nose, then from the gums, into the skin and subcutaneous connective tissue, into the brain or the cerebral or spinal meninges or any of the serous sacs and from any of the mucous surfaces. With the hemorrhage there may be associated gangrene. This condition must, in the absence of more definite knowledge, be attributed to some as yet undiscovered change in the blood and the blood-vessels, of toxic or infectious origin. Whether it is dependent on the typhoid bacillus, and thus occurs as a complication, or on some other micro-organism and thus constitutes an intercurrent disorder, has not as yet been determined.

A fatal case of this character has recently been reported by Nicholls and Learmonth[1] and reference is made in this communication to four others reported by Nicholls. Two fatal cases have been reported also by Eshner,[2] and Hamburger[3] last year reported a case in which recovery ensued. In the case of Nicholls and Learmouth, which was studied with great care both clinically and pathologically, the extensive hemorrhage present was attributed in part to the fatty degeneration of the basement membrane of the capillaries and various endothelial cells, especially noticeable in the lungs and kidneys after death, but it could not be determined whether the escape of blood occurred by rhexis or by diapedesis. The degenerative changes were in turn ascribed to systemic intoxication, but, although mixed or secondary infection with staphylococcus albus was present, no micro-organism could be determined to be specifically responsible for the hemorrhagic condition and it is thought that all contributed a share.

Even less common than generalized hemorrhage are hemoglobinemia and hemoglobinuria in the course of typhoid fever. But a few instances of this kind have been recorded in the literature. The report of a case of this character was recently read before the Philadelphia County Medical Society, by Musser and Kelly.[4] This case is especially remarkable, apart from the rarity of the complication, on account of the recovery of the patient, and on account of the beneficial effects of the cold bath, which by some has been thought to favor the occurrence of hemorrhage and cold being generally recognized as one of the exciting causes of hemoglobinuria. The occurrence of the blood change is attributed to some idiosyncrasy, by reason of which the blood was peculiarly susceptible to the action of the typhoid bacillus or its products. A case of hemoglobinuria attended with recovery has been reported also by Osler.[5]

THE PATHOLOGICAL UNITY OF TABES AND GENERAL PARALYSIS.

Some time ago this topic was discussed by the Pathological Society of London.[1] The chief points in favor of the pathological unity of the two diseases are well summarized by Mott, who holds that the poison of syphilis is the most important factor in causing two forms of progressive degeneration in the nervous system, one involving the exogenous afferent spinal neurons, namely, locomotor ataxia, and the other the association system of neurons of the cerebral hemispheres, namely, general paralysis. The two diseases are one and the same process affecting different parts of the central nervous system. It is now quite generally accepted that certain cases of locomotor ataxia present mental symptoms, that a certain number of cases of general paralysis present the symptoms and lesions of tabes, and cases of tabes may die of general paralysis. In both these diseases syphilis is regarded by many as the most important etiologic factor.

Mott has examined 12 cases of the tabetic form of general paralysis, and found in the brain the changes characteristic of general paralysis and in the cords the changes peculiar to tabes, namely, degeneration of the exogenous systems of fibers. He emphasizes as supporting the general trend of his argument that juvenile general paralysis and juvenile tabes probably occur only in congenital syphilitics. Krafft-Ebing's epigrammatic summary of the etiology of general paralysis, in the two words, "civilization" and "syphilization," with special emphasis on the latter, represents the general teaching of a number of prominent students of this perplexing malady, which many regard as a primary meningo-encephalitis, but which Mott holds is a primary degeneration of the neurons with secondary meningo-encephalitic changes, and for the following principal reasons: 1, its relations to tabes dorsalis; 2, the presence of Argyll-Robertson pupil in the majority of cases; 3, the existence of gray atrophy of the discs in a number of cases, and these last two symptoms are explainable only on the score of primary atrophy; 4, wasting of the whole nervous system out of proportion to the inflammation affecting some parts more than others, the wasting being undoubtedly primary and not secondary to bodily disease because it is more extensive than that seen in cachectic diseases, or even in starvation.

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[1] The Lancet, Feb. 2, 1901, p. 305; Journal A. M. A., February 23, p. 530.

[2] Am. Jour. of the Med. Sci., March, 1901.

[3] Johns Hopkins Hosp. Reports, viii, p. 309.

[4] Phila. Med. Jour., Jan. 19, 1901, p. 119; Journal A. M. A., February 2, p. 346, ℈ 10.

[5] Johns Hopkins Hospital Reports, v, p. 311.

[1] Transactions, 1900, li, 339-398.

Many of the prominent London clinical neurologists took part in the general discussion, and on the whole the views expressed agree with those of Mott outlined in the foregoing. It was pointed out by Gowers and others that the selective action of the toxic substance at work in locomotor ataxia is well shown by the limitations of its action to the intraspinal continuations of the posterior spinal roots—a strong argument in favor of the lesion being primarily degenerative. All the speakers endorsed the view that syphilis is the preponderant factor in tabes, and this seems to have been generally accepted as true also of general paralysis. Indeed, Ferrier has come to the conclusion that if there were no syphilis there would be no general paralysis or tabes. Of course it is impossible to prove a statement like this, but certainly there is much in favor of this view. The question whether tabes and general paralysis are one and the same morbid process affecting different parts of the nervous system, although perhaps to a certain extent a question of words, receives an affirmative answer in so far as both are considered as the result of parasyphilitic lesions of similar pathogenesis. From the standpoint of prevention this is an exceedingly important doctrine, because all measures limiting the spread of syphilis will diminish the frequency of tabes and general paralysis.

PROPOSED BUREAU OF MATERIA MEDICA.

In another column appears an article by Dr. F. E. Stewart, on "A Proposed National Bureau of Materia Medica." The suggestions made are well worthy of consideration, and a careful perusal of the article is advised for those who are interested in the question of the relation of pharmacy to medicine. That there is a mutual interest in the two professions none will deny; that each is dependent on the other, is a self-evident proposition. There ought to be some way through which scientific pharmacy can be protected and rewarded. While some of the pharmaceutic preparations offered to the profession of this country may be classed as nostrums, and are unworthy of support in any way, the great majority are not only of therapeutic and scientific value, but those who produce them should be financially rewarded. There certainly ought to be some method by which the "wheat can be separated from the chaff," and while we are not prepared to say that Dr. Stewart's proposition will meet all the objections, still it does appear as though his solution of the problem is a satisfactory one, at least as far as is possible at the present time.

ERADICATION OF YELLOW FEVER IN HAVANA.

In his letter accompanying the report of the vital statistics of Havana for March, Major Gorgas, the chief sanitary officer, calls attention to the fact that Havana at last is free from yellow fever. He expresses the opinion that never before has that city been so long free from the disease, and attributes the present conditions in a large part to the systematic war waged on mosquitoes during the month of March. He has, he says, the strongest hopes of destroying the foci in that way. In former times and even since the American occupation the milder types of the disease passed largely unrecognized, and no such strenuous attempt was made to report them as is the case at present. Hence the significance of present conditions, and it is evident that the health authorities of Cuba are trying to verify clinically as well as experimentally the mosquito origin of the propagation of the disorder. This is only the beginning of the clinical test of the theory, but it is apparently a promising one. If they succeed in stamping out yellow fever, this result alone will be worth all the cost of the Spanish-American War. What can be done in Cuba can be done also elsewhere, and with this scourge of the American tropics, and malaria, eliminated, the area of the habitable globe will be appreciably increased for the white race, to say nothing of the removal of the danger to our southern coast from Cuban foci of the disease.

GENERAL SECONDARY INFECTION IN THE COURSE OF CHRONIC PULMONARY TUBERCULOSIS.

Chronic pulmonary tuberculosis in the majority of cases represents a mixed infection of the lungs. The exact rôle of the bacteria of secondary infection may not be fully and clearly established, but there is no question that the presence in the pulmonary foci of bacteria like the pneumococcus, streptococcus and staphylococcus is fraught with an element of additional danger to the tuberculous patient. In addition to hastening the local destructive process and causing more or less pneumonic infiltration as well as general intoxication, these secondary invaders may enter the general circulation and perhaps cause a terminal bacteriemia. Many investigators have examined the blood of the tuberculous for bacteria, especially during the period of hectic fever, and with varying results. One of the most extensive investigations of this kind is that by Teissier,[1] who studied bacteriologically the blood of fifty-three cases and obtained positive results in nine. His method appears to be quite reliable. He obtained streptococci and staphylococci. It is probable that in many cases the general infection does not lead to secondary localizations, but instances of endocarditis, of thrombosis, of metastatic suppuration are observed in the course of pulmonary tuberculosis, showing that localizations may occur which are of decided prognostic significance. Hence in combating pulmonary tuberculosis the physician should not lose sight of the significance of secondary infection.

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[1] Jour. de Phys. et Path. gén., 1901, iii, 223-230.

THE ST. PAUL MEETING.

The coming meeting of the American Medical Association at St. Paul promises to be largely attended and of especial interest. The steady growth of membership the past year, the progress in medical science, the new questions that have arisen, and the locality, affording as it does an opportunity to visit some of the most interesting sections of our country, all favor a specially large attendance. The members of the medical profession of St. Paul are zealous to demonstrate the capabilities of their city as a place of meeting, and everything promises that the occasion will be one of special interest and value. The scientific program, as shown by the preliminary announcements of the several Sections, is excellent. The date of the meeting is such as to harmonize with other attractions of a summer trip and, to those who have never visited it, the scenery of the upper Mississippi, which Anthony Trollope called the most beautiful river in America, will be a revelation. Among other side attractions are special arrangements for visiting the Yellowstone National Park, which will be opened one week earlier than usual on this account. Altogether there is every reason to look forward to the St. Paul meeting as one of the landmarks in the history of the Association.

DR. KINYOUN AND SAN FRANCISCO'S PLAGUE.

Some of the San Francisco papers are expressing a sort of malignant satisfaction over the prospects of a transfer of Dr. Kinyoun from that station to some other in the U. S. Marine-Hospital Service. They apparently look upon it as a sort of punishment to be inflicted on him for not acting in accordance with their wishes, and as a result of their efforts. Since Dr. Kinyoun's offense was that he simply told the truth and did not actively go to work to suppress it at their demand, it would be a disgrace to the service were this the motive of the order for the transfer, and we trust, therefore, that their assumption is a false one. As far as Dr. Kinyoun himself is concerned, it can hardly be altogether disagreeable to him to get away from those who have persistently and maliciously slandered him for simply doing his duty, and we trust the change, if it occurs, involves no serious inconvenience to him, and is not contrary to his wishes. The misfortune is that it gives to the newspapers which have opposed him, the opportunity to pretend, however falsely, that their influence has effected the removal, and it puts the head of the U. S. Marine-Hospital Service on his honor, as it were, to show the falsity of such misrepresentations. Dr. Kinyoun can hardly ask for a better vindication of his course before the medical public, than has been given by the facts in the report of the government commission (see last and this week's Journal). If he is transferred it should be with the assurance to the public that his course, as regards the facts of the plague, is fully endorsed by his superiors. If public and professional confidence is to be given to the quarantine service, there must be no suppression of facts whatever may be the local wishes. Actual falsehoods seem to be demanded by a portion of the San Francisco press, and until the situation there is cleared up beyond any possible doubt, there is especial need of an honest and fearless representative of the Government at that post.

THE QUESTION OF ANTI-EXPECTORATION.

There is no physician—at least we confidently assume this to be the case—who will not endorse anti-spitting ordinances on general principles. If there is any way in which the tuberculosis germ can be universally disseminated it is through expectoration, and there are other sanitary objections, only a little less emphatic, against the practice, to say nothing of moral and esthetic ones. If the antituberculosis crusade does nothing more than put an end to the abominable practice of public expectoration in all sorts of places it will deserve the gratitude of mankind. But will it do it? The most sanguine optimism can hardly venture to predict this result with certainty. Spitting is considered an inherent right; a judicial decision, perhaps more than one, has settled this fact, and in most of the municipalities of the country the chances of this offense being duly punished are affected by the fact that the prosecution must run the gauntlet of expectorating police and spitting magistrates in a very large proportion of cases. Then we must consider the objection of the average tough to interference with what he considers his right to be a nuisance, with the consequent hesitancy of the usual meek-minded citizen to come into collision with him, and the difficulties of the enforcement of the law grow upon one's consciousness. A policeman was nearly murdered in St. Paul the other day in attempting to make an arrest for violation of an anti-expectoration ordinance, and other similar events are not unlikely. Nevertheless, the enactment of such regulation is a good thing. A law does not go at once into innocuous desuetude—to use the term introduced by and associated with a great public functionary—because it is not universally enforced. A partial or imperfect enforcement has still a certain moral effect, and what is more needed than anything else is its educative action on the public. What we want is a creation of a general sentiment that it is indecent and disreputable to spit in public places, and when that exists it will not be difficult to make the act unprofitable and to enforce regulations against it. Our civilization is too much behind that of most countries in this regard; a duly educated public opinion bringing the public spitter into proper contempt is what we need. It may be necessary to acquire this before anti-spitting regulations can be fully enforced, but the present agitation, if not allowed to die out, will help to bring this about. Let us have anti-spitting laws and enforce them as far as we can.

Another Xiphopagus.—Chapot-Prévost has found another pair of united twins which he is studying with interest. The twins are Chinese boys, 14 years of age, and are now on exhibition in a circus in Europe. The connecting band is comparatively long and narrow, thus allowing considerable freedom of movement.

Medical News.

CALIFORNIA.

Dr. Kate P. Van Orden, Ventura, has been appointed a member of the board of health.

Dr. John J. Kinyoun, Federal quarantine officer at San Francisco, who has made himself *persona non grata*, because of his refusal to conceal the existence of plague in San Francisco, has been transferred to St. Paul, Minn. He will be succeeded by Dr. Duncan A. Carmichael, now Federal quarantine officer at Honolulu, Hawaii.

Plague in San Francisco.—The Medical Society of the State of California, on April 17, passed a resolution expressing confidence that the San Francisco Board of Health, the State Board and the Government Commission will be able to watch and take proper measures for suppression of the plague in California.

ILLINOIS.

The Semi-centennial in Medicine, of Drs. S. S. Salisbury, Tolono, and Dr. Charles H. Mills, Champaign, was celebrated by a banquet tendered by the Champaign County Medical Society, April 9.

Smallpox in Springfield is taxing the patience of the health authorities. After securing a location for the isolation hospital, in a remote spot in Oak Ridge Cemetery, they were enjoined by persons who lived near the cemetery. They then set up the tents in Reservoir Park, but during the night of April 23 these were destroyed.

Rummage Sales and Smallpox.—Dr. James A. Egan, secretary of the State Board of Health, declares that a rummage sale held recently in one of the churches at Metropolis was responsible for the spread of "Cuban itch," that is, smallpox. He considers these sales great disseminators of disease, and that they constitute a most pernicious practice.

Chicago.

Dr. Reuben Peterson has been made Bates professor of gynecology and obstetrics in the University of Michigan, vice Dr. James N. Martin, resigned.

Dr. William Osler, Baltimore, will deliver the annual lecture before the Chicago Society of Internal Medicine, at the rooms of the Chicago Medical Society, May 15.

St. Luke's Hospital Bazaar, given last week by the graduating class of the St. Luke's Hospital Training School for Nurses, netted $1000 to the charity work of the hospital.

Chicago's Mortality.—Of the 551 deaths reported for the week ended April 20, 195 were due to diseases of the respiratory system, and 48 to violence. The death-rate for the week was 16.33 per 1000 per annum.

Nicholas Senn Hall.—A permit was issued April 17 for the erection of a seven-story addition to Rush Medical College, to be ready for occupancy November 15. It will cost $115,000 and will be devoted to clinical instruction.

Rush Students Transferred.—After July 1, the instruction in the first two years of the medical course of Rush Medical College will be given at the University of Chicago. President Harper announces in addition that large sums of money have been recently given to this department to buy new apparatus and to enlarge its capacity.

Smallpox.—There was a slight increase in the number of cases of smallpox discovered during the week, including a larger proportion of out-of-town cases. The second death from the disease occurred on Saturday—a typical case of confluent smallpox, in a patient "never vaccinated." Out of 193 cases since Nov. 30, 1900, there have been but two deaths. The isolation hospital report for the week is 17 new cases received, 13 discharged recovered, 1 death, 40 remaining.

Mortality and Morbidity.—After nearly three months of the lowest mortality rate on record, the scale has turned and the death-rate is rapidly rising to the usual spring proportions. A total of 551 deaths from all causes was recorded last week, an increase of 106 over the total of the previous week, and only 10 less than in the corresponding week of last year. This is an increase of nearly 24 per cent. over the average of the previous two months. In the weekly bulletin of the health department this result is attributed to the unusually low temperature of the month and the continuance of raw, chilling and depressing east and northeast winds laden with moisture from the lake. Chronic invalids and the aged, stricken with acute disease, are the principal sufferers from these conditions, and the death-rate among those over 60 years of age has increased more than 35 per cent. within the week, while pneumonia, heart disease and consumption all show an increased mortality. With a continuance of the prevailing weather conditions a further increase of the pulmonary diseases is inevitable. Individual precaution against undue exposure, attention to personal hygiene and thoroughly sprinkled streets, in the absence of rain, will restrict this increase in the degree in which these measures are enforced. Frequent showers, even at the expense of muddy streets, will do much for the public health at this season of the year, by limiting the spread of the air-borne and dust diseases.

INDIANA.

In Indiana, the State Board of Medical Registration and Examination has granted license to practice to forty-seven out of about seventy-five who applied.

The internes of the Indianapolis City Hospital, selected by competitive examination, have been assigned to duty; 5 to the dispensary and four to the hospital. Of these, 8 are graduates of the Medical College of Indiana and 1 of the Central College of Physicians and Surgeons.

Dr. R. B. Short, Union Mills, the Representative who had the Wood medical bill in charge in the house, says that the bill is causing large numbers of "Christian Scientists" throughout the state to retire. The laws of all the states surrounding Indiana are just as stringent against their practices as is the new law in Indiana. He has not observed that the law is operating to drive out of the state any other class of practitioners.

IOWA.

Dr. C. H. Cretzmeyer, Waverly, has been appointed to the house staff of the Iowa City Hospital.

Sioux City College of Medicine held its eleventh annual commencement April 24, and graduated a class of six. The trustees have decided to make the course of study eight instead of seven months, as heretofore.

Dr. John McClintock, of the Medical Department of the University of Iowa, will soon start for Europe to purchase new material for the pathologic and biologic laboratories which were recently destroyed by fire.

Iowa College of Physicians and Surgeons, the Medical Department of Drake University, Des Moines, held its annual commencement April 23, and graduated a class of fourteen. Hon. A. B. Cummins delivered the commencement address.

MARYLAND.

The Hospital for Consumptives has bought sixty acres more land, near Towson, in the suburbs of Baltimore.

Dr. John S. Fulton, secretary of the State Board of Health, has sent a circular to the truck farmers of the state calling their attention to the prevalence of smallpox and urging them to exercise care in employing hands and to see that those employed have been recently vaccinated.

Smallpox Threatens.—As the eastern shore counties are threatened with smallpox from Delaware, so the western part of the state is threatened from Pennsylvania. On April 15 there were thirty cases in Bedford County, Pennsylvania, within a small radius, near the Maryland border, and steps were being taken to establish a rigid quarantine by the Maryland authorities. The disease seems to have been carried to Pennsylvania from Cumberland, Md., by an infected individual, who escaped from that city before quarantine could be established.

Baltimore.

Dr. Melvin S. Rosenthal has returned after a year's stay in Europe.

Baltimore Medical College graduated a class of ninety-six on April 23.

Baltimore Medical College Alumni Association celebrated its twentieth anniversary on April 16. Dr. Edward L. Whitney was elected president.

Dr. John C. Hemmeter's new composition, "Des Sængers Himmelfahrt," for chorus and full orchestra, was produced by the Arion Society at Germania Maennerchor Hall, April 17.

Drs. Thomas H. Magness, Baltimore, and Dr. Joseph T. Devine, New York, have been elected resident and assistant resident physician respectively of Baltimore University Hospital.

The annual report of the Librarian of the Medical and Chirurgical Faculty of Maryland shows that 941 books were added during the year. The journals regularly received number 156, chiefly English, German and French. There were 4123 readers and 1732 books were taken out. The Frick Fund books now number 1693.

Garrett Fellowship in Pathology.—Mr. William Johnston, the Liverpool ship owner, has founded an international fellowship of $500, in pathology and physiology, in memory of the late John W. Garrett, of Baltimore, president of the B. & O. R.R. It is open to members of American universities and medical schools. The incumbent must devote himself to research in the Thompson-Yates laboratories of University College, Liverpool. The professors of University College, in whose hands is the nomination, have asked the Johns Hopkins Faculty to send the first fellowship from Baltimore.

MICHIGAN.

Dr. Herbert M. King, Grand Rapids, has been delegated to represent the State Board of Health at the tuberculosis congress in London this summer.

Dr. William B. Watts, Jackson, has been appointed grand medical examiner and adviser of the Brotherhood of Locomotive Firemen, with headquarters at Peoria, Ill.

Dr. T. J. Haines, Three Rivers, who sued the Lake Shore and Michigan Southern Railway for injuries received in a railway accident, in 1899, has been awarded $3000.

The plague in Ann Arbor has no new victims thus far. The student is rapidly recovering from the infection and his two physicians are convalescing from the effects of the Haffkine serum injections.

The house has passed the bill providing for women physicians in Kalamazoo, Pontiac, Traverse City and Newberry asylums, in the home of the feeble-minded, Lapeer, the industrial school at Adrian, the school for the deaf at Flint and the school for the blind at Lansing.

MINNESOTA.

Dr. Thomas S. Roberts, Minneapolis, has been elected to the chair of pediatrics in the medical department of the State University.

The State Board of Medical Examiners recently granted licenses to practice to eighty-nine out of ninety-eight applicants who appeared for examination.

The vaccination order, which has been in force in Duluth since October last, and prevented unvaccinated children from attending school, was revoked April 6.

NEW YORK.

Dr. F. W. Robertson, formerly of Bellevue Hospital, and for the last few months resident physician and acting superintendent of the Elmira Reformatory, has been appointed permanent general superintendent of that institution.

Personals.—The governor has sent in the nomination of Norman S. Dyke, of Kings, as trustee of the State Consumption Hospital in the place of Walter Jennings, resigned, and has also nominated, for New York Quarantine Commissioners: Hugh McRobert, Frederick H. Schroeder and Charles H. Murray.

State Hospital for Consumptives.—The committee on Rules of the Assembly has amended Senator Davis's bill for the construction of a state hospital for consumptives, in the Adirondacks, so as to provide that the commission to review the selection of the site shall consist of the governor, the speaker *pro tem.* of the Senate and the speaker of the assembly.

New York State Cancer Laboratory.—The annual report of this institution has been transmitted to the legislature. It relates to the work of Dr. H. R. Gaylord in the protozoan cause of cancer, and speaks hopefully of the discovery of an antitoxin. After calling attention to the increase in cancer mortality in the state during the past year, and the importance of the work thus far done, a further appropriation of $20,000 is asked for, and $15,000 was appropriated to carry on further investigations.

To License Hypnotism.—The Senate has passed the McCabe bill which seeks to legalize and license hypnotism and mesmerism as taught in so-called schools for the purpose. The bill provides that neither hypnotism nor mesmerism shall be taught except in schools approved by the regents, and no one shall practice either, except physicians and surgeons, unless duly graduated from such school and his diploma registered with the county clerk. By this measure it is hoped to put hypnotists and mesmerists on a legal and licensed footing, and give the countenance of a state law to the practice.

Buffalo.

The monthly report of the Department of Health gives a death-rate of 14.57 per 1000.

Dr. Prescott Le Breton has been appointed assistant orthopedic surgeon at the Children's Hospital.

Dr. Charles F. Howard has been renominated by Governor Odell to be a member of the board of managers of the Elmira Reformatory.

A bill has been introduced at Albany to allow Charles E. Abbott, of Buffalo, to go through the medical department of the University of Buffalo and take the usual degree and afterward take the regents examination, which, as a rule, is required to be passed as a preliminary to entrance into a medical college.

New York City.

Dr. Morris J. Asch, after forty-six years of practice, is taking a year of rest.

Diphtheria has attacked so many of the 600 pupils attending the public school at Highbridge that the school has been ordered closed.

Arrests for Expectoration.—The Board of Health, on April 21, caused the arrest of thirty-two persons for spitting on the floors of street-cars and the decks of ferry-boats. Of this number, sixteen were held for trial and nine were fined from $2 to $3. It is thought that the publicity given to this crusade will act as a wholesome deterrent.

NORTH CAROLINA.

Smallpox was reported during March in twenty-five counties. In Green County 173 cases were reported.

State Board of Health.—The governor has made the following appointments: Dr. Richard H. Lewis, Raleigh; Dr. Francis Duffy, Newbern; Dr. George G. Thomas, Wilmington, and Dr. William P. Ivey, Lenoir.

State Examinations.—The regular annual session of the North Carolina State Board of Medical Examiners will be held in Durham, N. C., beginning May 16. Applicants desiring examination will carry with them a diploma from a college of medicine requiring not less than three years' attendance, evidences of clinical instruction, and certificates of character. The license fee is $10. The president of the Board is Dr. E. C. Register, Charlotte; secretary-treasurer, Dr. J. Howell Way, Waynesville.

OHIO.

Starling Medical College, Columbus, held its fifty-fourth annual commencement April 11. The graduating class numbered thirty-three, and the address of the evening was made by President W. O. Thompson, of the State University.

Ohio Medical University, Columbus, held its ninth annual commencement exercises April 16, graduating a class of forty-four. The address to the graduating class was made by Rev. Louis Edward Holden, president of Wooster University.

A controversy over smallpox, between health officers and physicians of Springfield, resulted in the calling of Dr. A. Ravogli, Cincinnati, as an expert. He found one of the patients free from any indication of this disease, while the other disputed case was undoubtedly smallpox.

School Investigation.—The *Cincinnati Post* has engaged Dr. S. P. Kramer, late major and surgeon, U. S. V., to make a sanitary investigation of the public schools of this city. The sewerage, ventilation, lighting, construction of seats, and the effect on the spine of uncomfortable or poorly adapted seats, water-supply, the manner of collecting and disposing of dust, and all other conditions that might effect the health of the pupils, will be studied. The investigation will include one school a day, and Dr. Kramer will be accompanied in his rounds by a medical member of the Board of Education.

PENNSYLVANIA.

A bill has been introduced in the state legislature making it unlawful for cities of the first class to reopen, for the purposes of sepulture therein, any grave in which any corpse may be interred.

An attempt was made to destroy the smallpox hospital at McKeesport, April 18. A can of gunpowder, with matches and a fuse, was found in the building. There were no patients in the hospital at the time.

Large Medical Bill.—Probably the largest medical fee ever presented in Pennsylvania is that of Dr. Walter C. Browning, of Philadelphia, against the estate of Christopher Magee, of Pittsburg, recently deceased, who is reported to have been worth several million dollars. According to reports, the bill covers a period of twenty-one months, and includes trips to the seashore, and to Hot Springs, Va. The total amount of the bill is $190,000.

Philadelphia.

Dr. Lewis Morris, of the United States Navy, has been assigned to duty at the Naval Hospital of Philadelphia.

Dr. Samuel D. Risley has resigned, after a service of many years as professor of diseases of the eye at the Philadelphia Polyclinic. As a mark of appreciation of his services the Board of Trustees created the office of Emeritus Professor of Diseases of the Eye, to which Dr. Risley was elected.

Dr. William Campbell Posey has been elected professor of diseases of the eye at the Philadelphia Polyclinic, to succeed Dr. Risley, resigned. Dr. Posey is a graduate of the University of Pennsylvania, has studied abroad, and is connected with the Will's Eye Hospital, Howard, Epileptic, and Home for Incurables.

Smallpox.—Two new cases were reported in one day during the last week, and the total number is now eight. The cases have been found in various portions of the city. The first was discovered about three weeks ago, and two fatal cases have occurred. The patients have been removed to the Municipal Hospital and the infected houses quarantined.

As a precaution against plague, the Board of Health will take all the precautions possible to prevent the introduction of rats coming from vessels on board of which there is any suspicious disease. The medical board at Reedy Island will hereafter insist on a new style hawser, since it is believed that by the old style the rats have a means of reaching the shore.

The Ptolemy Society, the purpose of which is for social intercourse and to disseminate medical science, has been chartered with the following officers: Stilman Henry Conner, president; Bert Edward Goodman, vice-president; Atlee David Mitchell, secretary; Frank Cornelius Leytze, treasurer; and Drs. Hobart Amory Hare, Hiram R. Loux, Justus Sinexon, Edwin Russell Kennedy, and Dudley D. Smith, board of governors.

Obstetric Amphitheater.—Through the gift of Mrs. C. B. Newbold, the University of Pennsylvania has received $25,000 for the construction of an obstetrical amphitheater to be added during the present year to the University Hospital. The new addition will be known as the Scott Amphitheater, in memory of Mrs. Thomas A. Scott, Mrs. Newbold's mother. The building will be of brick, fifty feet square, and will accommodate 150 students.

Exhibit of Board of Health.—In response to an invitation by officials of the Pan-American Exposition, the Board of Health will make an exhibit showing its work. It has been completed under the direction of Chief J. Lewis Good and Dr. W. M. Welch of the Municipal Hospital. The exhibition consists of a handsomely bound portfolio, and contains a complete set of all circulars, blanks, health diagrams, photographs, etc., showing the sanitary work done throughout Philadelphia. The photographs include the city hall, Municipal Hospital, smallpox building, leper building, diphtheria ward, and disinfecting rooms of the Municipal Hospital, and other data.

TENNESSEE.

The State Board of Medical Examiners met at Nashville April 4, and issued licenses to practice to ten of the thirteen applicants whom they examined.

Tennessee University Medical Department, Nashville, graduated a class of seventy-nine, on March 26. Dr. Perry Bromberg delivered the charge to the graduates.

Grant University Medical Department. Chattanooga, held its commencement exercises April 23, graduating a class of about sixty. The orator of the evening was Judge Floyd Estill.

Vanderbilt University Medical Department, Nashville, held its commencement exercises April 3, and graduated a class of ninety-one. Hon. W. A. Henderson, Knoxville, delivered the address to the graduates.

The medical practice law, at present in force in the state, requires the State Board of Medical Examiners to recognize diplomas of all colleges in the state. This list includes two "magnetic schools" and the "Chattanoogiense Gentiticium Medicum Collegium."

TEXAS.

Dr. Absalom A. Ledbetter has been appointed city health officer of Hallettsville.

Dr. John Foster, Georgetown, has been appointed third assistant physician at the State Lunatic Asylum, Austin.

Fort Worth University Medical Department held its seventh annual commencement, April 5. A class of twenty-six was graduated. The Faculty address was delivered by Judge B. D. Tarleton.

Temple Hospital has elected the following medical staff: Drs. Arthur C. Scott; Benjamin F. Lee; John M. McCutcheon; Victor Oatman; Robert W. Barton; John S. McCelvey; R. R. White; Lee Knight and James M. Woodson. The hospital association is prosperous and is planning to add a new wing to the hospital building.

UTAH.

Smallpox has broken out in the family of the author of the McMillan antivaccination bill passed by the recent legislature and vetoed by the governor on the ground that it "is a step backward, which will be disastrous."

The State Board of Medical Examiners met April 2 for organization and re-elected Dr. Elias S. Wright, Salt Lake City, president, and elected Dr. Robert W. Fisher, secretary. Five applicants for license appeared, two of whom passed the examination.

Smallpox in Salt Lake City.—Twenty-three new smallpox cases were reported in Salt Lake City the first week of April. There are now 120 cases under quarantine and in the isolation hospital. Of the twenty-three patients only two had been vaccinated, and these not later than 1866.

WISCONSIN.

The State Board of Medical Examiners, at its session in Milwaukee, April 9, refused to recognize diplomas of a southern medical college which requires only a three years' course. The board passed favorably on fifty-five out of sixty applications.

Frank X. Schaeffer, charged with practicing medicine without proper legal qualification, was found guilty and fined $50 and costs, to stand committed to jail until the money is paid. The costs will amount to $400 or $500, as this was the third trial of the case. The jury was out only ten minutes. He appealed at once on writ of error to the supreme court.

The Circuit Court has decided that the State Board of Medical Examiners has the right to determine whether an applicant for registration is a reputable resident physician, and its decisions on this question cannot be reviewed by mandamus. The decision was rendered in the case of a practitioner of Hillsboro, against the state board, he seeking to compel the board to grant him a certificate of registration.

CANADA.

Dr. R. A. Reeve has been reappointed dean of the medical faculty of Toronto University.

The Winnipeg General Hospital, for the week ending April 13, treated 198 patients—102 men, 53 women and 43 children. There were also 42 out-patients.

Sir William Hingston, on May 8, will have completed the fortieth year of his connection with the Hotel Dieu Hospital, Montreal, as consulting physician, and on that occasion will be tendered a *dejeuner* by the sisters of the institution.

McGill Items.—The graduating class numbered over one hundred, in medicine, this year. Dr. Ruttan, registrar of the medical faculty, has been re-elected representative from that faculty upon the corporation of the university. Dr. William Gardner has been chosen to deliver the valedictory of the faculty to the graduating class at the convocation to be held about June 15.

Honors Awarded.—Dr. Andrew Haliday, Shubenacadie, N. S., who has been studying during the past winter in the Pathologic and Public Health laboratories of the Western Infirmary and the University of Glasgow, has, after examination, been awarded first class honors with first place in the sanitary division of the class of pathology and bacteriology, and also a diploma in State Medicine.

Ontario's Smallpox.—The smallpox outlook throughout Ontario is brighter, although within the past two days four or five new cases have been discovered in Toronto, and one of these, a medical practitioner, who contracted the disease while attending a supposed case of chickenpox. The men employed in the lumber camps of the northern part of the province have all left for their homes, and some five thousand of them have been vaccinated, and two thousand pieces of baggage disinfected at Sudbury. At present the disease exists in some fifteen centers west of Sudbury. and in thirty in what is called Old Ontario. All persons going north for the next few months, to work on boats and at summer resorts, will be examined.

"Christian Science" in Canada.—"Christian Science" is said to now boast of a little over 5000 adherents throughout all Canada; and lately there has been noticed a marked tendency among clergymen of all denominations to make a concerted and vigorous attack upon what they regard as the growing evils and delusions of this doctrine. In Toronto, in a number of the prominent churches, the subject has been taken up repeatedly of late, and the ministers of the city, though by no means unanimous in their views of Mrs. Eddy's belief, have broadly and generally made determined onslaughts on her doctrines. Starting in Canada with a membership of only a score or two in 1890, the sect is believed to have a membership of 3000 and about 5000 adherents. It has thirty-two churches scattered over all parts of the Dominion; four of these are owned. In Toronto there are about 500 "Christian Scientists" attending the two churches that city possesses. It is said that no adherents are drawn from the Roman Catholic Church.

Medical Convocation.—The convocation of the medical and dental faculties of Bishop's College, Montreal, was held last week. Dean Campbell, of the medical faculty, in his annual report spoke of the need for larger endowments for the faculty if it is hoped to carry on the work of teaching in the future as successfully as it has done in the past. The primary chairs especially require assistance, as they can not be filled at the present time by men who enjoy large practices. The year just closed shows an increase in the medical faculty and a decrease in the dental, perhaps due to the additional year now demanded and a more searching preliminary examination. There were eighty-four medical students in attendance last session. Dr. Hyman Lightstone delivered the valedictory.

Registration in Ontario.—It costs each student $100 to become a licentiate of the College of Physicians and Surgeons of Ontario. An annual fee of $2 is then demanded and every practitioner is required to pay this fee and be registered on the register of the College. Some ten years ago a storm was raised over this very same fee and many practitioners have refused to pay it at all. Now a number are in arrears and they have been notified by the prosecutor of the Medical Council that their names have been already erased from the register and that if arrears for assessments are not paid within thirty days from date of notice they will be proceeded against in the usual way as against all other unregistered practitioners. The Medical Council is composed of practitioners, representatives from different constituencies in the province.

Montreal's Sewerage.—The Sewage Farm in Montreal, a description of which appeared in the columns of The Journal about fifteen months ago, is now in an awful condition and has proven a flat failure. The farm, which is situated at the head of St. Denis St., in that city, and into which the sewage from the northern portion of the city has been emptying, cost in the neighborhood of $75,000, and to-day is useless, and the raw sewage is seen rolling across country and into the Back River, constantly emitting a foul stench. The whole volume of sewage from the sewer outlets empties itself into the surface of the farm at one end and then rushes out at the other, and on as above described. The people living in the neighborhood threaten the city with legal proceedings unless the nuisance is abated at once. It appears that when the farm was in course of construction a double set of pipes was advised by the city surveyor, but his advice was disregarded, and Montreal now finds herself up against another source of danger from disease through the coming summer months.

Prevention of Tuberculosis.—A special meeting of the Executive Committee of the Canadian Association for the prevention of tuberculosis was called at Ottawa on the 20th. His Excellency, Lord Minto, in the chair. Dr. Lachapelle, of Montreal, was added to the committee. On resolution it was decided that all the secretaries of the provincial boards of health should be corresponding members of the Executive Committee. The Rev. Dr. Eby, of Toronto, has been appointed special organizer and agitator in the Providence of Ontario, for a period of six months, in order to prosecute a systematic campaign of education on the line of providing municipal sanitaria. Toward this end the central association granted $300. Dr. Eby in the meantime resigns the secretaryship of the Canadian Association, and Dr. H. B. Small, of Ottawa, has been invited to act as honorary secretary.

FOREIGN.

The Soemmering Prize.—This has been awarded by the Senckenburger Natural History Society of Frankfort to Prof. Franz Nissl, of the University of Heidelberg, for his discoveries in the finer structure of the nerve cell, with especial reference to its alteration in disease.

University Chair.—The Wurtemberg Chamber has voted anew for the founding of a chair of homeopathy in the University of Tübingen. The Cultus Minister, von Weizsacker, and the chancellor of the University, von Schönberg, fought the proposition energetically, but in spite of this it was carried by 43 to 31 votes.

Honors to Bottini.—A committee of the friends and students of Professor Bottini are planning to celebrate the twenty-fifth anniversary of his appointment to the chair of surgery at Pavia. A *Festschrift* or souvenir volume of original articles on surgery will be presented to him, with a gold medal and a framed parchment list of all subscribers. I. Tansini is secretary of the committee and the subscription asked for is twenty lire, or about $4.

Requirements in Brazil.—The *Gazeta Med. da Bahia* for March is a students' number and describes the two medical colleges in Brazil, both of which have been open to women since 1879. Six women have taken the full course at the Bahia institution, which commenced as a school of surgery in 1808 and became transformed into a college in 1852. The requirements for admission are a high school course or a certificate of proficiency in Portuguese, French, English, or German, Latin, algebra as far as equations of the first degree, history, etc. For a course of obstetrics the requirements are merely proficiency in Portuguese and either French or English or German, and a knowledge of arithmetic as far as and including proportion.

Belgian Federation.—The profession has watched with much interest the struggle between the Brussels medical society, the collège des médecins, and the Belgian federation of mutual aid societies. Six years ago the physicians engaged by the federation resigned their positions on account of its arbitrary terms and demands and their position was endorsed by the local medical societies. Certain physicians were found, however, who acceded to the demands and the federation thus practically gained its point, although it has continued to make overtures to the former medical attendants and others. The collège des médecins officially decided, at a recent meeting, to revoke its former action and remove all hindrance to the acceptance of positions with the federation by any of its members.

Smallpox at Glasgow.—The number of cases has been steadily decreasing. On April 9 there were 234 cases in hospital. In the week ending April 5, 45 new cases were admitted, 100 patients were discharged, and 6 deaths occurred. Dr. Chalmers, the medical officer of health, has reported some interesting figures regarding the influence of revaccination. Among the patients were 39 persons who stated that they had been revaccinated; in 36 the date of revaccination and of the onset of smallpox were ascertainable. In all, the interval between revaccination and sickening fell short of the inoculation period, so that in none was the operation performed before the disease was contracted. This very cogent fact, however, has not silenced the antivaccinators, and they have held a series of meetings in the city.

Progress of the Plague.—In Cape Town 22 Europeans and 108 colored persons have died from plague, while the total number of cases has been 83 in Europeans, and 266 in colored persons. In the week ending March 30, there were 60 new cases, as follows: Europeans, 18; colored, 29; Malay, 6; Indian, 2; Chinese, 1; natives, 4. The 22 deaths in the same period were: Europeans, 6; colored, 9; Malay, 3; Indian, 2; natives, 2. The total number of cases during the week ending March 16 was 8829, a considerable increase on the previous week. In the city of Bombay there were 1203 deaths—a slight increase on the previous week. The condition of the city is twice as bad as at this time last year. In the Bombay presidency, 717 deaths occurred. In the Madras presidency 73 deaths were reported, a decrease on the previous week. *In the* northwestern provinces there were 557 deaths and in the Punjab 105. In Calcutta, on March 19 and 20, there were 168 and 190 new cases of plague, and 161 and 154 deaths—unprecedented numbers. A death from plague is reported to have occurred in Alexandria on April 7, which is the first case for twelve months.

PARIS LETTER.

The Doctor on the Stage and in Literature.

The rôle of the physician in contemporary life is the subject of quite a number of plays brought out recently. In one by Brieux, a playwright, called the "Substitutes," the question of nursing is discussed. There are two doctors in the cast; one, the type of the fashionable physician, sacrifices his principles to the inclinations and the requests of his clients, who prefer to hire nurses, whereas the other, who is from the country, upholds the author's idea, which is that mothers should always nurse their children if possible. This play serves to educate the public, and moreover a law passed not long ago in France forbids a woman hiring herself out as a nurse until her child is 7 months old. In literature too, one can find quite a number of books which deal with medical subjects. One published recently is called "Le Mal Nécessaire," *The Necessary Evil*, and is a study of the life and practice of a great surgeon of a certain familiar type. The book is a species of satire on the tendency shown by such to operate brilliantly and cleverly, without perhaps justifying their actions by a sufficiently clear conception of the requirements of any given case. Surgeons are much talked about in the French papers, much more so than they are in America, and it is getting to be rather bad form to have one's name appear in the newspapers.

Russian Sanatorium.

The tsarewitch, who died some time ago at Nice, was buried at the villa Bermond, and the ground around the estate was bought up by the Russian government. There is some reason to believe that a sanatorium for the Russian poor is to be established in this place, and Prince Georges of Leuchtenberg is at the head of this enterprise.

Influence of Bile on the Kidney.

According to most text-books, bile has a pernicious influence on the kidney, and its elimination in the urine causes albuminuria. Dr. Milian has studied the question carefully, and, at a recent meeting of the Anatomical Society, said that he had examined the kidney in Hanot's disease, or hypertrophic cirrhosis, and had found no reason to accept such a statement. There is, as everyone knows, choluria in this disease, and yet albumin is not even found in the last stages of this malady. Polyuria is generally noticed, as much as two liters being secreted every twenty-four hours. On performing the autopsy, the kidneys are found slightly enlarged, sometimes very much so, weighing together 610 grams instead of 280. On examining them microscopically, no alterations are found, both tubes and glomeruli being in a normal condition.

Exophthalmic Goiter.

At a recent meeting of the Society of Neurology, Dr. Babinski described the results he had obtained in the treatment of exophthalmic goiter by salicylate of soda. In one case a woman, 28 years old, began to show symptoms of this affection nearly three years ago. Since January, 1899, the symptoms have increased considerably, and in February there was a clearly defined goiter, very apparent exophthalmia, tremulation in the arms, and the pulse was 140. The patient had grown much weaker and lost flesh. The treatment by salicylate of soda was recommended and continued several months. In October, 1899, the condition of the patient was absolutely transformed. The pulse was only 80, the goiter and tremulation had disappeared, the patient's strength had returned and she had increased in weight. Toward the end of last year all exophthalmia had disappeared. Dr. Babinski also cited two other cases where noticeable improvement followed the use of salicylate of soda.

Intestinal Hemorrhage in Typhoid.

At a meeting held by the Society of Therapeutics, March 13, Professor Mathieu spoke on the treatment of intestinal hemorrhage in typhoid fever by very hot enemata. This method had been recommended by Dr. Tripier, but Dr. Mathieu thought it well to add chlorid of calcium. The treatment is carried out in the following manner: 1, complete immobilization of the patient—suppression of the baths, which are replaced by the cold pack; 2, immobilization of the intestine—opium and reduced amount of liquid food; 3, every morning an enema of a liter to a liter and a quarter at a temperature of 46 degrees, given very cautiously—pressure 20 to 40 centimeters. This enema should contain three to four grams of chlorid of calcium. One to 3 grams of chlorid of calcium are given by the mouth. Dr. Mathieu does not believe in giving more than 3 or 4 grams of chlorid of calcium, as when larger doses are given the coagulability of the blood is diminished instead of being increased. This method was tried on eight patients, and Dr. Mathieu found that the hemorrhage ceased after twenty-four hours. One great advantage of administering enemata in this manner is that the blood which remains in the intestine gets putrified and is the cause of an increase in the fever and the typhoid symptoms. Dr. Mathieu added that he prefers subnitrate of bismuth to naphthol as an intestinal disinfectant. He gives it in doses of 5 grams three times daily. He has found naphthol more irritating.

LONDON LETTER.

Sir William Church, the present president of the Royal College of Physicians, has been re-elected.

Bilateral Ossification of the Tendo Achillis and Plantar Ligaments.

At the Harveian Society, Mr. Daniel recently showed a case, in a man, aged 35, who had suffered from rheumatic pains all his life. His father was also rheumatic. The patient, for as long as he could recollect, had had tender feet. At 18 he was exposed to bad weather, took a chill and suffered from great pain in the feet, especially in the heels. Since then he has always been more or less crippled. Marked shooting pains were often present in the pectoral muscles of the back, deltoids and glutei, rendering him unable to move his limbs, the joints appearing fixed. No swelling of the joints was noticed. He walked with difficulty. There was no evidence of myositis ossificans and he had good movement in the back and all the joints, including the ankles. The heels were slightly enlarged and glossy and tender. For 1½ inches above the os calcis an irregular mass could be seen and felt on either side of, and propably on, the tendo Achillis. Cold, damp, and walking increased the pain. There was some rigidity of the great toes. Liniments, especially of iodin, and iodin internally gave relief.

Dangers of Flannelette.

An inquest has been held on the body of a servant girl who was recently burned to death. While cleaning a grate a cinder fell out and set fire to her petticoat, which was made of flannelette. The coroner remarked that flannelette is a most dangerous material, and that when once lighted there is no hope of extinguishing it. Deaths from the catching fire of flannelette night-shirts have been previously recorded.

Correspondence.

Conveyance of Yellow Fever.

Baltimore, Md., April 20, 1901.

To the Editor:—Relative to the editorial notice in The Journal of the 13th, on a paper of mine that appeared in the *Philadelphia Medical Journal* of April 6, "on the Corelation of the Theory of Conveyance of Yellow Fever by the Culex Fasciatus, with our Generally Accepted Beliefs," I would say:

1. My paper was written about the first of December last, when Finlay's experiments and Major Reed's "Preliminary Note" were the only *direct* evidence extant in favor of the conveyance of yellow fever by the mosquito as a host. Neither of these seeming to me—nor, I think, to others—fully convincing, I attempted to compare this theory, without regard to this evidence, with what was known and admitted on the subject, to try to determine if it were antecedently probable or improbable. The paper is confined to a bare statement of the case, purposely avoiding summing up, although I think a decided antecedent probability was shown for the theory. Since the publication of Reed's "Additional Note" (in February) this matter—the antecedent probability of this theory of conveyance—is of small importance. The direct evidence for it is satisfactory and, counting the conveyance of yellow fever from the sick to the well by a mosquito host as proven by such evidence, there is no question of probability to consider. 2. I can not think that the period of incubation of yellow fever will be found to vary analogously to that of malarial fever. In thirteen cases of experimental yellow fever, reported by Reed, the period of incubation was never over six days: in ninety-five collected and recorded by myself (*Medical Record*, March 9, 1901), in none did this period show over eight days, and in only two over six days, the usual period being from three to four days. We have no trustworthy evidence of an incubation period much beyond the limits given above. Save the transmission by a host, there is little analogy between yellow fever and malarial fever. There is no chronic yellow fever, there is no recrudescence of yellow fever in a patient; there are no "hold over" cases of yellow fever; and, finally, there is a very general—almost universal—immunity to yellow fever produced by one attack. To my mind the analogy is rather with Texas cattle fever than with malarial fever. Respectively,

H. R. Carter, Surgeon, U.S. M.-H. S.

Implantation of Ureters.

New York City, April 11, 1901.

To the Editor:—In view of the fact that the patient on whom I operated for implantation of the ureters into the rectum by a new method, as described in the *American Journal of the Medical Sciences*, Vol. clv., pp. 270-276, is still living and enjoying the best of health at the end of 4½ years—not 3½ years, as stated by Dr. Peterson. I wish to protest against paragraph 3, in the General Conclusions at the end of his article on "Ureteral Anastomosis" (The Journal, March 23, p. 814), in which he says: "All efforts to prevent ascending renal infection in animals or in man where the ureter has been implanted without its vesical orifice have proved futile." In order to support the contention that the "operation is unjustifiable" (paragraph 5, General Conclusions), he endeavors to assume that, in my case, "the kidneys have been infected, but that the infection has been overcome with resulting contracted kidneys." This assumption in the absence of the slightest suspicion that such has actually occurred in the case, would seem to be in a great measure gratuitous, if not absolutely unwarranted, even though "experimental work would lead us" to such a conclusion.

Further, I wish to call attention to the alleged foundation for thus discounting, and even practically ignoring, the result in this case. It would appear, by a paragraph on the same page, that Dr. Peterson performed the operation on a dog, implanting one ureter, and killed the dog at the end of twenty-seven days. At the autopsy the kidney corresponding to the implanted ureter was found to be "decidedly smaller than the other and showed evidences of ascending infection. *No bacteriologic or microscopic report on the specimen has yet been made*" (italics mine).

Beyond calling Dr. Peterson's attention to the fact that the mucous valve formation is neither the only nor the most important feature of the operation in question, and that therefore its disappearance in the case of the dog need not necessarily militate against the procedure, it is scarcely necessary for me to waste your space by further comment. Yours very truly,

G. R. Fowler, M.D.

Immunity Against Zymotic Diseases.

Topeka, Kans., April 18, 1901.

To the Editor:—I have read, with appreciation, the article on "Immunity Against Zymotic Diseases," by Dr. J. W. Class, published in The Journal of April 13, and have been much impressed by the author's lucid exposition of what is generally considered a perplexing theme.

The rather unique theory advanced by the author particularly attracted my notice, because its essential features had all been presented and elaborated in a paper of similar import, read Feb. 18, 1901, before the Medical Science Club of Topeka, by Dr. O. P. Davis, of this city, the original of which is in my keeping as secretary of that organization. In this paper, Dr. Davis, after canvassing the various theories of immunity, and pointing out their insufficiency, arrives by a process of deductive reasoning at what seems to be a new and plausible theory embracing all that Dr. Class sets forth, and more. The following main propositions were developed:

1. Acquired immunity is due to the continued presence in the body of the specific microbe of the given disease, in a form sufficiently attenuated to be tolerated by the host, and yet sufficiently active to stimulate the production of an antitoxin.
2. Germs may undergo attenuation outside, as well as within, the body, and entering the body, thus attenuated, may confer protection without typical infection.
3. During the whole time that this immunity continues the attenuated germs continue to reside in the protected body.
4. Such germs as will not undergo a stable attenuation, but tend to revert to the virulent type, will not confer permanent immunity by their presence in the body, but bring about either an immunity that is transient, or an increased susceptibility with subsequent reinfection, or both.

All these propositions were amply developed in Dr. Davis's paper, and though Dr. Davis set forth no special claim to originality on this subject, yet it seems that he has the priority over Dr. Class at least, in the enunciation of what appears to be a well-sustained theory. Very truly,

Corban E. Judd, M.D.

Anesthesia of Ear Drum.

Memphis, Tenn., April 3, 1901.

To the Editor:—In Dr. Henry Gradle's recent article on "Purulent Otitis, Its Treatment and Prevention by the Family Physician" (The Journal, March 30), in speaking of paracentesis of the drum membrane, he says that it is a painful procedure and the pain is not lessened by any of the local anesthetics. I would like to mention a combination of local anesthetics which I have found to act admirably in producing an anesthesia of the drum, permitting painless paracentesis. The mixture is equal parts of cocain, carbolic acid and menthol. It is attributed, I believe, to Bonain (*Rev. Heb. de Lar.*, June 17, 1899), and I claim no originality in connection with it. I have used it many times this winter with invariable satisfaction. After cleansing and drying the canal, I have applied this mixture with a cotton-tippel applicator directly to that portion of the drum which I wished to incise. In a moment the surface becomes white, and this is convenient in that it becomes easier to confine your incision to anesthetized parts. While I have used it mostly in adults, I have also tried it in children, and in them it is equally successful if you can allay their fears over the prospect of being cut. In one woman I did double paracentesis at one sitting without pain, and later in the progress of the case it became advisable to enlarge the too rapidly closing incision. This was done under the same mixture, and again without pain. I would like to urge on my colleagues in otology the use of this mixture, with which I am sure they will be pleased. Another popular mixture for the same purpose was suggested by A. A. Gray, in *The Lancet* of April 21, 1900, and is composed of cocain, alcohol and analin oil, in the proportion of 5 per cent of the alkaloid in equal parts of the other two ingredients, but I have had no experience with it. Very truly,

E. C. Ellett, M.D.

Original Papers Used for Advertising.

Philadelphia, April 16, 1901.

To the Editor:—In reference to the communication from Dr. Harvey, on page 1058 of The Journal of April 13, I would say that this matter did come to my ears very shortly before I saw his letter. I at once wrote to the manufacturers, who have so used my article, to stop all and every use made thereof, which they very promptly promised to do. That I never knew anything about the uses thus made, is a sufficient answer to the question at issue. If this is not satisfactory, I respectfully refer to the manufacturers, who have expressed great regret for using my paper at all, which was a sufficient apology to me, and I hope satisfactory to Dr. Harvey also

Yours, Edwin Rosenthal, M.D.,
Former Chairman of the Section on Diseases of Children.

Life Expectancy in Medical Men.

Burlington, N. C., April 11, 1901.

To the Editor:—Having seen it stated that medical men are shorter lived than those of other professions and trades, I have collected from the obituary notices in The Journal in succession as the deaths occur, the ages of 510 physicians, in the United States, Canada, and Europe. These statistics include deaths from accident and suicide, as well as those from disease. I find the average age to be 58 years and 9 months, not such a bad showing for the longevity of the physician after all, especially as the cases from accident and suicide, as well as casualties in the army service, are included. Yours truly,

W. G. Safford, M.D.

Association News.

The Growth of the American Medical Association.—As the time draws near for the Association's next annual meeting, interest in its affairs naturally grows more active among the profession at large. As to the meeting itself, which is to be held in St. Paul on the 4th, 5th, 6th, and 7th of June, there can be but one opinion and but one confident expectation, namely, that it will be at least the equal of any former meeting of the same body, whether from the point of view of the scientific work that will be done or from that of a reunion of the best elements of the American profession. As one annual meeting after another approaches, however, one's thoughts turn more and more on questions more closely bearing upon the Association's future usefulness than most of the proceedings that are likely to mark the occasion. The American Medical Association has accomplished a great work, but is it, as at present organized, fitted in the best possible manner for the work that is yet before it? There are those—and they are among the Association's best friends—who, recognizing fully that it was originally organized in a way admirably fitting it to cope with the problems of half a century ago, are inclined to think that changed conditions call for some modification of its machinery if it is to keep on doing for the profession the best that can be expected of such a body. When the association was organized, American medicine was in a decidedly unpromising state. There was, to be sure, no lack of brilliant and progressive men in the profession, but the teaching faculties were almost entirely irresponsible bodies, issuing at their pleasure diplomas which, while certifying to but little that a man could be proud of, gave their holders unquestioned prestige with the general public. Everybody had the right to practise medicine, and quackery was rampant. Authoritative pronouncements by the better class of physicians were required to educate the people up to the point of remedying these evils. Such have proceeded from the American Medical Association and from other medical organizations, and they have slowly taken effect. They were authoritative in proportion as they came from a representative body. It was seen at the outset that this would be the case; hence the delegate system in the Association's organization. But the delegates have now become so numerous, about fifteen hundred in all, that, though there are always many absentees, the general session is almost sure to be unwieldy on occasions when a conflict of opinion is to be settled by a vote, many uncalled-for speeches are apt to be made, not a few of the voters fail to get an adequate idea of the merits of the question, and emotion rather than calm judgment is prone to carry the day. All this hinders the real purposes of the meeting so far as legislative action is concerned, and it diverts men's minds from the scientific work in hand, to say nothing of the waste of time entailed. Quasi-legislative action on the part of the Association—and by that term we mean the adoption of resolutions, memorials, and the like, calculated to influence State and national legislation—seems to have become less and less important of late years, for the defects which it was formerly needed to correct have been almost wholly remedied. A decided reduction of the number of delegates, the proportion for each constituent body remaining the same, would, it seems to us, enhance the scientific work done in the sections and give time for a greater number of formal addresses, papers of general interest, and demonstrations. There need be no limit to the number of non-voting members, so that the attendance at the meetings would go on increasing as it has done up to the present time. In short, we can see no objection to a decided curtailment of the representative element, and we believe that it would prove advantageous. Such a move, we are quite aware, would involve practically a reorganization of the Association; if our ground is well taken, however, why should not a reorganization be effected?—*New York Med. Jour.*, April 20.

The Pathological Exhibit in St. Paul.—Last June we had the pleasure of commending the enterprise and good judgment of some of our Indiana brethren as shown in the exhibition of pathological specimens given in connection with the Atlantic City meeting of the American Medical Association. We were convinced that it could not have failed to make a most favorable impression, and we are glad to have our view confirmed by the announcement that a display of practically the same scope is to be made in St. Paul in June, this time under the Association's official recognition and as an integral part of its work. The committee in charge of the St. Paul exhibition, consisting of Dr. Frank B. Wynn, of Indianapolis; Dr. A. P. Ohlmacher, of Gallipolis, Ohio, and Dr. Hugo Summa, of St. Louis, has recently issued a circular of information from which we infer that a similar exhibition is hereafter to be a feature of all the Association's annual meetings. Gross pathological specimens, it is stated in the circular, will naturally constitute the greater part of what is to be displayed, but the committee add that they "will seek to present a wide range of practical scientific demonstrations, imposing only the condition that they bear absolutely no commercial impress." The educational object is to be kept constantly in view, particularly that of demonstrating the fundamental relationship of pathology to diagnosis, therapeutics, and sanitary science. In addition, however, to the pathological specimens, the committee will make an effort to present demonstrations of research and experimental investigation, which, it is quite properly remarked, will tend to stimulate original inquiry among the members of the Association, all of whom are appealed to to contribute specimens. It is suggested that in many instances such contributions may advantageously be made in connection with papers read before the sections. Besides their appeal to individual members of the Association, the committee urges upon State and other medical societies that they should select representatives to collect and present material on their behalf. Substantial co-operation is expected on the part of medical colleges, hospitals, laboratories, and various scientific institutions, among them, we hope, the Army Medical Museum. It is announced that an energetic local committee is charged with securing suitable quarters for the exhibition, separate and distinct from those of the commercial exhibits. Contributors are asked to have their material well in hand by the 1st of May, and to furnish the committee with complete lists of their specimens by the middle of that month. Institutions will be encouraged to present groups of specimens illustrative of some particular phase of pathology or bacteriology, and will be permitted to maintain them intact, but smaller collections and single specimens entrusted to the care of the committee will be disposed in the manner best suited to display their instructive features. It is asked that, so far as possible, all pathological specimens be accompanied by a history of the case and, unless the condition is so typical as not to call for it, a description of the specimen. Copies of the circular—which, by the way, is remarkably well written—together with further information, may be had by writing to Dr. Frank B. Wynn, No. 18 East Ohio Street, Indianapolis, to whom and to his fellow-members of the committee, we must add, the physicians of the whole country should feel indebted for their intelligent and zealous management of this most important undertaking.—*New York Med. Jour.*, April 20.

Section on Materia Medica, Pharmacy and Therapeutics.

PROGRAM OF SECTION ON MATERIA MEDICA, PHARMACY AND THERAPEUTICS.

Mode of Manufacture of Serums and Organ Extracts. Charles T. McClintock, Detroit, Mich.

Theory and Practice of Organotherapy. S. Solis-Cohen, Philadelphia.

Acromegaly Treated with Pituitary Body. Sydney Kuh, Chicago.

Treatment of Graves' Disease with Thymus Extract. John M. Dodson, Chicago.

Pharmacologic Action of the Various Preparations of the Suprarenal Gland. E. M. Houghton, Detroit, Mich.

Discussion on Organotherapy to be opened by Victor C. Vaughan, Ann Arbor, Mich.

Utility of Antitoxin Serums. Joseph McFarland, Philadelphia.

Further Observations on Serumtherapy in Croupous Pneumonia. J. C. Wilson, Philadelphia.

Antitubercle Serum. E. A. de Schweinitz, Washington, D. C.

Discussion on Serumtherapy, to be opened by Simon Flexner, Philadelphia.

Influence of Certain Common Remedies upon Gastric Functions. Boardman Reed, Philadelphia.

Treatment of Gastric Ulcer. Gustav Fütterer, Chicago.

Treatment of Gastric Hyperesthesia. Charles G. Stockton, Buffalo, N. Y.

On the Therapeutic Management of Dyspepsia from the Neurologist's Standpoint. C. H. Hughes, St. Louis, Mo.

Discussion on Gastric Disorders, to be opened by James B. Herrick, Chicago.

Chronic Myocarditis. J. H. Musser, Philadelphia.

Treatment of Neurasthenia. Harold N. Moyer, Chicago.

Therapeutic Indications Presented by the Conditions of the Blood in Disease. O. T. Osborne, New Haven, Conn.

Experimental Work in Intraorganic and Venous Injections and Blood Extraction in the Cure of Acute Organic Diseases. W. Byron Coakley, Chicago.

An Analysis of Cascara Sagrada. L. L. Solomon, Louisville, Ky.

Standardization of Crude Drugs and Galenical Preparations. A. B. Lyons, Detroit, Mich.

A Plea for More Uniformity and Strength in Our Armamentarium. C. F. Wahrer, Ft. Madison, Iowa.

Indication for and Utility of Altitude Treatment of Pulmonary Tuberculosis. S. E. Solly, Colorado Springs, Colo.

Adaptability of Southern California and Similar Climates to the Needs of Consumptives. Norman Bridge, Los Angeles, Cal.

Specific Treatment of Pulmonary Tuberculosis. E. L. Shurly, Detroit, Mich.

Tuberculin Treatment of Pulmonary Tuberculosis, with Statistics. Charles Denison, Denver, Colo.

Specific Therapeutics in Pulmonary Tuberculosis. Arnold C. Klebs, Chicago.

Discussion of Treatment of Tubercular Disease of the Lungs, to be opened by R. H. Babcock, Chicago.

Treatment of Lobar Pneumonia. De Lancy Rochester, Buffalo, N. Y.

Papers have also been promised by Drs. Frank Billings, Chicago; J. Edward Stubbert, Liberty, N. Y.; John V. Shoemaker, Philadelphia; Geo. F. Butler, Alma, Mich.; H. M. Whelpley, St. Louis, Mo. The titles are to be announced.

Book Notices.

A System of Practical Therapeutics. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, Second Edition, Revised and Largely Rewritten. With Illustrations. Vol. I. General Therapeutic Considerations, Prescription Writing, Remedial Measures other than Drugs, Preventive Medicine, Diathetic Diseases and Diseases of Nutrition. Pp. 856. Vol. II. Fevers, Diseases of the Respiratory and Circulatory Systems, Diseases of the Digestive System and Kidneys, Nervous Diseases and Diseases of the Skin. Pp. 926. Vol. III. Anesthesia and Surgical Technique, Fractures and Dislocations, and Minor Surgery, Surgery of the Lungs and Pleura and of the Peritoneal Cavity, the Rectum and Anus, Diseases of the Genito-Urinary Apparatus and of Parturition and of the Puerperium, Diseases of the Eye and Ear and of the Upper Respiratory Tract. Pp. 841, 3 vols. Price $15.00. Philadelphia and New York: Lea Brothers & Co. 1901.

This valuable composite handbook of treatment, so well received by the profession when it first appeared nine years ago, comes to us now in a new edition, and largely in new form and authorship. It is hardly the rule for works of this kind to pass to a second edition, but this is one of the exceptions. Naturally in view of the advances that have been made a thorough revision was to be expected, and more than this has been furnished in the present work. A large part of the articles have been completely rewritten so that the matter is altogether new, and in most cases this has been insured by a change of authors. Further than this, several entirely new chapters have been added either on subjects not included in the former edition or as amplifying and specializing the treatment. The arrangement of the work, as will be noted by those familiar with the earlier edition, has also been considerably altered.

In the first volume the subject of mineral waters and their medicinal uses, which was included with the general subject of hydrotherapy in the earlier edition, is given a separate chapter and treated with greater fulness and thoroughness, by Dr. James K. Crook. Another article notably changed is that on tuberculosis, by Dr. L. F. Flick, which is brought up to meet the views as modified during the past ten years. It is thoroughly modern in all respects. Diseases of the thyroid have also received an entirely new chapter, by Dr. S. J. Meltzer, giving the latest established facts as to the treatment of these disorders, among which obesity and its thyroid treatment are included. Other subjects that are handled anew in this volume are those of syphilis, massage, disinfection, and scorbutus.

In the second volume, fully two-thirds of the matter is entirely new, and the remainder has been thoroughly revised and brought up to date. Among the new articles with new authorship may be mentioned those on malaria, by J. M. Anders; diphtheria, by Floyd M. Crandall; typhoid fever and pneumonia, by H. A. Hare; liver disorders, by J. H. Musser; asthma, bronchitis, etc., by Norman Bridge, renal diseases, by N. S. Davis, Jr., which with a number of others, also new, make up the bulk of the volume.

In the third volume there is hardly fifty pages not altogether new, the only articles not completely rewritten by different authors being those of Dr. Ransohoff on cerebral concussion, etc., and Dr. Martin on intestinal obstruction. It is practically a new book and this can be said to be the case with the system as a whole. We miss the names of many of the well-known authors of the first edition, but those of the second are hardly, if at all, less familiar and welcome. There is an advantage in this, which is not gained in most new editions; the older book need not be discarded but still kept as a valuable series of therapeutic monographs for reference. In its present form the first volume is nearly one-half, the second two-thirds, and the third almost altogether of different authorship from the first; it is also more condensed and by this space is made for new subjects not noticed in the earlier edition and here included. The new edition deserves fully as cordial a reception by the profession as did the last.

Hypnotism and Suggestion in Therapeutics, Education and Reform. By R. Osgood Mason, A.M., M.D., Fellow of the New York Academy of Medicine. Cloth. Pp. 344. Price $1.50. New York: Henry Holt & Co. 1901.

The author has presented certain phases of hypnotism which are at present of special interest. These seem to be largely the psychic element in general therapeutics, what he calls "rapport" or what we should otherwise call telepathy and the ethics of hypnotism. He also gives considerable attention to the peculiar phases of medical disorders that have been reported from time to time as cases of double consciousness; of which Azam's noted case is perhaps the type. The points in which we should especially disagree with the author are the extreme views which he holds as to the therapeutic value of hypnotism, reporting as he does cases of epilepsy, neuritis and other organic diseases temporarily or permanently cured. Some of his cases reported are a little hard to credit, not as to facts as believed, but as to their interpretation. The author's views concerning "rapport," though supported by numerous stories or accounts, some of them from investigations of the Society of Psychic Research and some from other quarters, seem hardly acceptable scientifically. We can not say positively that certain things have not been done, but under the most favored conditions in which these have been attempted in our presence, they have failed, and we believe that a thorough study would eliminate a large number of these cases from the category of proven facts. Recognizing as we do the limitation of our intellects and the mysteries that are all about us, we must not be too positive in saying what may and may not be done, but judicial skepticism seems to us the most rational course. The practical value of hypnotism so far as we have seen its work in medicine seems to be greatly overrated in the present volume; the views expressed are not in accordance with the experience of the medical profession. The book is well written and naturally makes very interesting reading. The only thing is how far it should be accepted as scientific truth. There is no need of questioning the honesty of the author's view and the opinions he holds are those of many others, but we doubt their acceptance by the medical profession.

Sanity of Mind: A Study of Its Conditions and of the Means of Its Development and Preservation. By David F. Lincoln, M.D. Cloth. Pp. 177. Price, $1.25. New York and London: G. P. Putnam's Sons. 1900.

This little volume by a physician who is already known as an author on subjects of public health is an excellent and popular presentation of the general subjects of mental hygiene.

The subjects taken up in detail are: 1. The outlook of the present tendencies as regards mental health. 2. Nature of mental derangement. And following this, in natural order, is the subject of degeneracy. Under this head are briefly described the principal stigmata and their psychic and moral associations. The largest part of the book is given to the subject of education, including self-education, which is treated in a separate chapter. It also contains a concluding chapter on social and civic duties in relation to mental soundness and its maintenance in the community. The book is one that will be profitable reading for educators, and for parents and citizens generally.

Infant-Feeding in Health and Disease. A Modern Book on all Methods of Feeding. For Students, Practitioners, and Nurses. By Louis Fischer, M.D., Attending Physician to the Children's Service of the New York German Poliklinik; Bacteriologist to St. Mark's Hospital; Professor of Diseases of Children in the New York School of Clinical Medicine; Attending Physician to the Children's Department of the West-side German Dispensary; Fellow of the New York Academy of Medicine, etc. Containing 52 Illustrations, with 16 Charts and Tables, Mostly Original. 368 pages, 5¾x8 inches. Neatly Bound in Extra Cloth. Price, $1.50, net. Delivered. Philadelphia: F. A. Davis Company.

The object of this book is to answer a question that is so often asked the family physician: "What shall I feed my baby?" The introductory chapters are devoted to the anatomy and physiology of digestion in infants, the latter especially in relation to chemistry and physiology of the different periods of infant life. The various milks, artificial foods, methods of feeding and the relation of certain foods to special physical conditions of the infant are discussed in all their phases. The author makes use largely of German authors in his quotations, and his book is a reflection of modern German practice, to a great extent. It contains a mass of practical and valuable information, in regard to diet for the mother, before and after the birth of her child, management of the breasts, preparation of foods, management of a few of the minor ailments in infants resulting from errors in diet or faults of digestion, etc. There is room for improvement in the literary style in several instances, but these minor faults are outweighed by the great practical value of the work.

A Manual of Practical Hygiene for Students, Physicians and Medical Officers. By Charles Harrington, M.D., Assistant Professor of Hygiene in the Medical School of Harvard University. Illustrated with 12 Plates and 105 Engravings. Cloth. Pp. 729. Price $4.25. Philadelphia and New York: Lea Brothers & Co. 1901.

The author handles his theme in general in a satisfactory way, and has in some respects carried his considerations a little beyond the limits of the ordinary work of this kind, that is, military and naval hygiene are treated, as well as quarantine laws, and tropical hygiene, a question which is now coming to be of some importance to medical sanitarians of the United States. He has, however, excluded some engineering questions, such as hospital arrangement, sewerage, etc., which are sometimes included in the larger text-books and has left out the usual chapters on bacteriology, which he thinks can be better studied in special works. The book is fairly accurate, though once in a while there is a slip, as for example when it says that up to 1892 the water-supply of Chicago was taken from a shore intake, a condition which has not existed for nearly thirty years before that time. Another point that impresses us as being open to criticism is the ignoring of a large part of American medical literature. A very few American journals only are quoted, while foreign authorities are quite adequately noticed. The book is well illustrated and will in the main meet the needs of the student satisfactorily. We hope that in future editions more attention will be given to one point we have mentioned, viz., the American contributions to the subject of sanitation and hygiene.

Nursing Ethics: For Hospital and Private Use. By Isabel Hampton Robb, Graduate of the New York Training School for Nurses attached to Bellevue Hospital. Cloth. Pp. 273. Price $2.00. Cleveland, Ohio: J. B. Savage. 1901.

The author has already published a work on nursing which has been well received, and here gives in a general and also rather specialized way instructions as to personal conduct of nurses in their relations to the public, patients and the physician. Very little if anything is said to which we could take exception. Questions of personal habits, education, culture, the general care of the person, of the rooms, duties toward superiors and inferiors in the hospital, take up nearly two-thirds of the work. Only a few pages at the close are given to the relation of the nurse to the physician, a very important subject which might have been amplified. Still, the nurse who follows the advice here given will not come under the condemnation which has been uttered by various physicians, Dr. Malcolm Morris, for example, and others, and which, it must be said, often has a very good basis. The art of nursing is not all of the business, for there is something in natural aptitude, disposition, etc., and not every nurse can be satisfactory in all respects.

A Manual of Obstetrical Technique as Applied to Private Practice. With a Chapter on Abortion, Premature Labor, and Curettage. By Joseph Brown Cooke, M.D., New York, Late Attending Physician St. Mary's Free Hospital for Children, Out-door Department. Cloth. Pp. 169. Price $1.25. Philadelphia and London: J. B. Lippincott Co. 1900.

The author carries out well the promise made in the preface, that book is written from the point of view of the private practitioner and that the hospital idea has been eliminated. It deals with technical obstetrics, considers the care of the patient from early pregnancy until the end of the puerperium, and has in addition a chapter of abnormalities, on obstetrical operations, including symphyseotomy, and a separate and very useful chapter on the douche. The closing chapters deal briefly with the obstetrician himself and the obstetrical nurse. Added to the work are history blanks on the card index system, instructions to pregnant women and to the nurse. The manual will be of benefit to the younger members of the profession, who so often have received no practical training in the art of obstetrics with the exception of a limited number of deliveries which they have witnessed in a well-equipped maternity.

International Medical Annual: A Year-Book of Treatment and Practitioner's Index. 1901. Nineteenth Year. Cloth. Pp. 682. Price, $3.00. New York: E. B. Treat & Co.

The 1901 volume of the International Medical Annual contains the usual judicious selections and keeps up well the reputation of the series. The names of the contributors, including a large number of the leading medical writers in this country as well as abroad, more especially England, are in their way a guarantee of the value of the work. Among the new contributors to this volume is an Italian, Professor Ruata, of the University of Perugia, Italy, the only continental European contributor; he furnishes the article on tuberculosis. The editor remarks, in the preface, that it may be of interest to the readers to know that this article is published as furnished by the author, in the English language.

A Book of Detachable Diet Lists for Albuminuria, Anemia and Debility, Constipation, Diabetes, Diarrhea, Dyspepsia, Fevers, Gout or Uric Acid Diathesis, Obesity, Tuberculosis and a Sick-room Dietary. Compiled by Jerome B. Thomas, Jr., A.B., M.D., Instructor in Materia Medica, Long Island College Hospital. Second edition, revised. Cloth. Price, $1.25. Philadelphia: W. B. Saunders & Co. 1900.

This volume is a collection of diet lists for the sick and sick-room dietaries or recipes for preparing them. It has been before the public in an earlier edition, but the present one contains such improvements as have been suggested since. The idea of the book is to have the pages torn out and left as practical instructions for the sick-room, and it will doubtless be found useful by the practitioner. Both the diet prescribed and the methods of preparing it can be left with the nurse or at the patient's house.

The Clipping-File for Classifying and Filing Newspaper Clippings, References to Books and Magazines, etc. Also a System of Classification, Consisting of Common Subjects and a Classified List of Topics. Price $1.00 per volume. The Clipping-File Company, Cleveland, Ohio.

The clipping-file consists of a case containing some ten envelopes with classification as to subjects, which are printed on the outsides. For a limited number of clippings it may be found of some value. It is not, of course, necessary to follow the classification on the outside of the envelope, but this may be of convenience to some. Another edition is issued without this classification and may be adapted to anyone's ideas and uses.

A Pocket Text-Book of Chemistry and Physics. By Walton Martin, M.D., and William H. Rockwell, Jr., A.B., M.D., of the College of Physicians and Surgeons, New York. In one 12mo. volume of 366 pages, with 137 illustrations. Cloth, $1.50, net. *Flexible red leather*, $2.00, net. Philadelphia and New York: Lea Brothers & Co. 1900.

This work is another of Lea's series of pocket text-books and, while written especially for medical students, will be found of reference value to practitioners. In the section on physics a consideration of wireless telegraphy has been introduced, and the authors have given especial attention to details, notably in the consideration of organic chemistry, concerning those compounds which are "of medical interest not only medicinally, but in physiological chemistry."

An Index of Symptoms as a Clew to Diagnosis. By Ralph Winnington Leftwich, M.D., Late Assistant-Physician to the East London Children's Hospital. Second Edition. Cloth. Pp. 267. Price, $2.00. New York: Wm. Wood & Co. 1901.

The first edition of this book was received with favor by the profession, and found to be a convenient reference work for the practitioner. The chapter on the methods of diagnosis, including the various urinary tests, though brief and elementary, adds to the value of the work.

Deaths and Obituaries.

James T. Stewart, M.D., University of Pennsylvania. Philadalphia, 1850, who had practiced in Peoria, Ill., for more than fifty years, died at his home in that city, April 12, aged 76. He was noted as a botanist, was one of the founders of the Peoria Scientific Association, and was a member of The American Medical Association.

William H. Davies, M.D., Jefferson Medical College, Philadelphia, 1861, died suddenly from heart disease, at San Bernardino, Cal., April 10, aged 60. He had formerly practiced in Maquoketa, Iowa, but moved to California in 1897, on account of bronchial trouble, locating at Rialto.

John B. O. Landrum, M.D., who practiced for twenty-four years in Campobello, S. C., but who for the past few years had been devoting his attention to historical study and writing, died from blood poisoning, at his home in Campobello, April 13, after an illness of several weeks, aged 70.

Reuben B. Nisbet, M.D., University of Georgia, Augusta, 1850, of Eatonton, Ga., where he had practiced for half a century, a Confederate veteran, for many years chairman of the board of education, died at his home in Eatonton, April 10, after a short illness from pneumonia, aged 70.

Thomas Phillips Graham, M.D., Albany Medical College, Albany, N. Y., 1866, one of the first members of Council and of the Central Board of Education from the Thirty-sixth ward, Pittsburg, died at his home in that city after an illness of six months, on April 14, aged 61.

Frank Wayland Abbott, M.D., University of Buffalo, N. Y., 1866, died at his home, Buffalo, April 9, after a protracted illness, aged 59. He was oculist to the Buffalo General Hospital and the Charity Eye, Ear and Throat Hospital.

A. H. Robbins, M.D., Medical College of South Carolina, Charleston, who had practiced for many years in Northwest Township, Brunswick county, North Carolina, died at his home in Wilmington, April 13. aged 70.

John W. Charles, M.D., Washington University, St. Louis, 1865, died at Bethany Hospital, Kansas City, Kans., April 9, after an illness of two weeks. He was one of the oldest practicing physicians of Armourdale.

Cephas G. Adams, M.D., University of Vermont, Burlington, 1855, died at his residence in Portland, Me., April 13, as the result of injuries received in a carriage accident two years ago, aged 70.

J. Archer Watson, M.D., Trinity University, Toronto, 1885, was struck by a locomotive and killed instantly, while riding near Toronto, April 11. He was 45 years of age and had a wide practice.

Nelson D. Gaddy, M.D., Medical College of Ohio, Cincinnati, 1858, who practiced for nearly forty years in Weston, Ind., died at his home in Seymour, April 12, from heart disease, aged 72.

Frederick Koeberlin, M.D., who had practiced for more than forty years in Freeburg, Ill, died at his home in that city after a short illness. from heart disease, April 8, aged 69.

George W. Shilling, M.D., University of Pennsylvania. Philadelphia, 1875, of Sharon, Pa., died at Cambridge Springs, Pa., April 12, from kidney disease of long standing, aged 58.

Wyllis F. Wood, M.D., Albany Medical College, Albany, N. Y., 1874, died at his home in Rensselaer, N. Y., from lung disease after a long illness, April 11, aged 50.

Thomas A. O'Callaghan, M.D., McGill University, Montreal, 1880, died at his home in Worchester, Mass., April 13, after an illness of two years, aged 45.

Ellis Jennings, M.D., Medical College of Ohio, Cincinnati. 1862, died at his home in Dayton, Ohio, after an illness of several years, April 10, aged 67.

Harris S. Scruggs, M.D., Memphis Hospital Medical College, 1885, of Memphis, Tenn., was assassinated April 16, near his home, by persons unknown.

Peter O. Dillard, M.D., College of Physicians and Surgeons, Baltimore, 1893, died from consumption at his home in Martinsville, Va., April 9.

Abner E. Gore, M.D., University of Louisville, Ky., 1858, died at his home in Paris, Mo., from pneumonia, after an illness of one week, aged 78.

Merritt E. Williams, M.D., Louisville Medical College, 1875, died at his home in Antigo, Wis., April 14, from la grippe, aged 59.

George Kernahan, M.D., Rush Medical College, Chicago, 1880, died at his home in Chicago, from interstitial nephritis. April 17.

Henry Kemp Yeakley, M.D., Baltimore University School of Medicine, 1891, died at Fort Terry, Plum Island, March 27, aged 30.

Oliver H. Sullivan, M.D., Medical College of Indiana, Indianapolis, 1872, died at his home in Alexandria, Ind., April 12.

Louis Rademacher, M.D., Miami Medical College, Cincinnati, 1880, died at his home in Newport, Ky., April 7.

Arthur E. Herbert, M.D., Laval University, Quebec, 1882. died after a short illness at his home in Quebec, April 12.

Sylvanus C. Griswold, M.D., Missouri Medical College, St. Louis, 1860, died at his home in New Haven, Mo., April 6.

Miscellany.

Early Difficulty of Postmortems.—The *Journal de Med. de Paris* quotes the documents in a suit against a surgeon named Froment, in 1726, who was imprisoned because he had held an autopsy on the corpse of his own son and mounted the skeleton for preservation. The love of his art, he confessed, had overcome the tenderness of the parent. He was arrested on the complaint of his neighbors, but was soon released.

Modification of Murphy Button to Dispense with Sutures.—Jaboulay describes, in the *Archives Provinciales de Chirurgie*, ix, 10, a modification of the Murphy button. It consists in slitting each half of the button from the outer edge down to the shank. One lip of the intestine is worked into this slit, and then the other lip. The other part of the button is treated in the same way, and a little plate fits over the slit. The opening in the intestine can thus be extremely small.

Polyarthritis Anginosa.—This is the term proposed and advocated by Schurig in an article in the *Deutsche Militärärzt. Ztft.*, No. 3, for acute articular rheumatism, which he claims is usually preceded by tonsillitis. The throat and tonsils should have particular attention paid to them in all cases of articular rheumatism, and every simple tonsillitis should be vigorously treated to prevent the development of articular rheumatism. The regiments which suffer most from tonsillitis, he has noticed, are nearly always those that have most cases of articular rheumatism. The few exceptions demonstrate that the latter disease is influenced also by other factors.

Report of Special Commission on the Plague in San Francisco.

(Concluded from page 1132.)

From February 5 to February 16, thirteen dead Chinese were inspected as follows:

Death 1.—(Inspected February 5.) Chun Ah Chou, aged 44, actor; died this morning in Washington Street Theater; body well nourished; two or three dark bluish spots on legs—possible hemorrhages. On palpation of the neck, axillæ and groins, some enlargement of the lymphatic glands of the left groin was made out, though nothing corresponding to an outspoken bubo was visible. The inspecting commissioner advised a pathological and bacteriological examination in order to remove all doubt as to the nature of the case. The results proved the case to be one of infection with plague (*vide infra*, laboratory case 1).

Death 2.—(Inspected February 5) Wong Koong Chin, elderly Chinese male; died at 6 Waverly Place; history of dyspnea and cyanosis for a long time before death. There is marked edema of legs; no enlargement of lymphatic glands ascertainable on palpation. Death certificate signed by city physician as due to valvular disease of the heart. Case not regarded as suspicious and no pathological or bacteriological examination was insisted on.

Death 3.—(Inspected February 5) Lee Kee, middle-aged Chinaman, found dead at 917½ Stockton Street. This man had been visited by members of the Commission two nights before, the case having been reported to them as one suspected of being plague. Neither when seen during life nor on inspection after death was anything seen which pointed to infection with plague. No enlargement of lymphatic glands could be made out. A pathological and bacteriological examination was, however, deemed advisable for purposes of exclusion. The results as regards plague were negative (*vide infra*, laboratory case 2.) The assistant city physician attributed the death to intestinal obstruction.

Death 4.—(Inspected February 6) Fong Sha Song, coolie, aged 56, found dead in "hall of tranquility" at rear of 1111 Stockton St. No available history of condition *intra vitam;* body filthy; edema of legs; no enlarged lymphatic glands; no visible hemorrhages; pathological and bacteriological examination advised for purposes of exclusion. Results negative as regards plague (*vide infra*, laboratory case 4). Death attributed by city physician to interstitial nephritis.

Death 5.—(Inspected February 6) Lum Hong Yuen, died in room 15, third floor at 28 Ross Alley. Body found at Main Fook's undertaking establishment at 740 Pacific St. Through Mr. Wong Chung, the secretary of the Six Companies, a school teacher who knew deceased, stated that the man had been ill about three weeks, that he had been a cook and waiter in the Chinese Theater up to three weeks ago, when he quit work on account of "chancre and bubo," that since then he has been in his own room in Ross Alley, that four or five days before his death he was given medicine by a Chinese doctor, for a chill, that said medicine was too strong for the patient and that "his breathing stopped and he died."

On inspection of the body no evidence of "chancre" could be found; in the right inguino-femoral region a large mass of swollen conglomerated lymphatic glands could be felt. The swelling was so like similar swellings previously observed in cases of plague in Hongkong and in India that the case was regarded as almost certainly one of plague. Pathological and bacteriological examinations were made at once; the results proved correctness of the impression gained from inspection (*vide infra*, laboratory case 3).

Death 6.—(Inspected February 7) Wong Chi Lui, aged 45, cigar-maker, who had worked at 418 Battery St. Found dead at 18½ (21½) Waverly Place. Through Mr. Wong Chung it was ascertained that the man had been ill for about two weeks, complaining of fever, loss of appetite and general uneasiness. He had had pains in the groins and lower abdomen to which region a Chinese doctor had applied honey and salve. No history of venereal disease. For three or four days prior to death, the man was unconscious. When chided by Mr. Wong Chung for not having reported the case earlier to the Six Companies, the brother of the deceased said he had not made a report because he had believed the patient would soon be well.

On inspection and palpation a large mass of swollen glands was discovered in the left inguino-femoral region. It seemed likely that the case was one of plague and the friends of the deceased were notified that an examination of the body would be made immediately. The pathological and bacteriological examination established the death as one due to infection with bacillus pestis (*vide infra*, laboratory case 5).

Death 7.—(Inspected Feb. 11) Tom Shom, male, aged 51; actor in Chinese theater; room above theater at 814 Washington St., near room of late Chun Ah Chou (See Death 1). This man was reported as ill to the Six Companies and was examined clinically on Friday, February 8, by Dr. Barker, who obtained the following history. The man had been acting in the theater about two weeks before, although it had been stated that he had not been very well for from six to seven months previously. On February 4 he became seriously ill with fever and delirium. There had been some vomiting. The urine as observed by the attendant was described as brandy colored. He had a Chinese doctor in attendance and his friends had not considered him ill enough to make a report to the Six Companies worth while. The man smoked about 50 cents worth of opium daily. On clinical examination the patient was found lying upon his back in bed with legs drawn up; he was in a state of semistupor. His pulse was 108, quick, rather full but of low tension. The skin was hot and dry; respiration 20 to the minute. The face had an anxious expression; the tongue was coated in the middle. There was no palpable enlargement of the glands of the neck or axillæ, but in the right groin several slightly enlarged glands could be distinctly felt, and the patient, though his mind was partially clouded, winced decidedly when either groin was palpated. It was evident that the glands were quite tender. In the absence of urethral discharge, chancre or evidence of local irritation in the lower extremities, the case was, on account of the local and general phenomena, regarded as one of plague. The skin was cleansed and a sterilized hypodermic needle introduced into the groin. A few drops of bloody fluid were withdrawn, presumably from one of the enlarged glands. It was difficult to be sure of this, however, as the patient could not be kept quiet while the needle was being inserted. No colonies of plague bacilli developed in the inoculated tube. The autopsy subsequently made indicated that the needle had failed to enter an enlarged gland.

The patient was seen on the following day when his conditions showed no change for the better. The pulse was 136 and feebler; the patient seemed in general weaker and an unfavorable prognosis was made. The patient's friends were told that an injection of Yersin's serum offered the best chances for recovery, though they were also told that not much could be hoped from any treatment in the stage of the disease in which the patient then was. The offer was refused. The man died on February 10, the next day.

The dead body was inspected on the morning of February 11. The body was in a state of firm rigor mortis, the limbs being strongly flexed. On breaking down the rigor mortis and palpating the glands in the groin, it was difficult to say positively that there was any enlargement of the lymphatic glands. In view of the enlargement distinctly made out during life and the clinical picture which had been observed, the death was believed to be due to plague and a pathological and bacteriological examination undertaken. The results indicated clearly the existence of infection with B. pestis (*vide infra*, laboratory case 6).

Death 8.—(Inspected February 11) Chung Moon Woo She, wife of Chung Toy Ding, living in a cellar at 27½ Waverly Place. She had been seen clinically by inspecting Commissioner on February 6 and also on February 9. When first seen clinically, it was learned that she had been ill for three or four days, complaining of aching pains in the ribs and other bones, headache and loss of appetite. She had no cough. Two days before she had felt very chilly. On examination she was found to have slight fever; pulse 100; tongue slightly coated; examination of thorax and abdomen negative: careful palpation of cervical, axillary, cubital, inguino-femoral and popliteal lymph glands revealed no enlargement or tenderness. When seen on February 9 the patient was found to have grown much worse; the pulse was 132 and quick; the temperature was higher, the tongue was dry, sordes were appearing upon the lips and the woman was semistupid and moaning in bed. The next day, February 10, the patient died and the body was inspected on the following morning. The house in which the body lay was filled with men, women and children, friends of the deceased, all of whom objected strenuously to any examination of the body whatever. It was insisted upon, however, and finally by promising that only one small cut would be made, permission for examination was granted. Amid an appalling outbreak of grief on the part of the friends, an incision was made in one groin and as the glands imbedded in the fat there showed no hemorrhages or enlargement, no further examination was made. It is to be regretted in this case where only one slight incision was allowable that the spleen was not bacteriologically examined as the case may have been one of general infection with B. pestis. At the time, however, in face of the strong protest made by the friends, it seemed wise, in order not to antagonize the Chinese too much and so perhaps interfere with progress of the whole investigation, not to go further. The body was surrounded by quicklime and sublimate sheet and burial was permitted by the Board of Health.

Death 9.—(Inspected February 12) Foong Ah Fong, female, aged 12, found dead at 747 Sacramento St.; room 12, fourth floor. This little girl had been observed clinically on February 6, the first day of systematic clinical inspection. She gave a history of having caught a cold, followed by a headache and lack of appetite. She had complained of no chill or vomiting. Her pulse was 84 and her temperature only slightly above normal. She did not look very ill; the tongue was slightly coated; there was no palpable enlargement of lymphatic glands. As the splenic dulness was only slightly increased, and the mother of the child stated that the patient had been ill for fully two weeks, plague was not suspected. The case was looked upon as possibly a mild case of typhoid, and instructions given to report to the Six Companies in case she got worse. She was not visited again during life. It was a surprise to hear of her death, and on inspecting the body, though no external signs of plague were visible, it was deemed advisable to make at least a bacteriological examination of the spleen. This was done, but under marked protest from the child's relatives. The result showed that the child was actually infected with B. pestis (*vide infra*, laboratory case 7).

Death 10.—(Inspected Tuesday, February 12) Ung Ah Buck, aged 45, found dead at Wing Hai's undertaking establishment on Sacramento St. This man had been seen alive and examined by Dr. Barker on the previous day, who diagnosed the case *intra vitam*, as one of cervical bubonic plague. When seen alive he was in a room upstairs in the rear of 921½ Dupont St., opposite St. Louis Alley. The man was sitting up, but looked extremely ill. His face was pale, cyanotic and anxious looking. His voice was very feeble, but his intelligence seemed almost unclouded, and he was able to carry on a conversation though with difficulty with the interpreter. The friends stated that he had at times wandered in his talk. He was under the care of Dr. Mather. The patient stated that he had been ill for two weeks. His neck had been swollen for one week and he regarded the condition as quinsy. With the aid of a tongue-depressor the throat was examined. The fauces were swollen and reddened, the swelling being very marked in the left side. The left palatine tonsil was much enlarged and showed on its surface a grayish-white patch the size of a dime. The reddening in the throat was general and there was less local injection than one ordinarily sees in diphtheria. The left side of the neck was brownish-yellow, having been painted over with a solution of iodin. On inspection and palpation marked bulging was found; this seemed to be due to enlargement of the cervical lymphatic glands. The case was diagnosed as one of plague with cervical bubo. The man died next day and a complete autopsy was made by Dr. Flexner. The pathological examination showed typical lesions of plague and the bacteriological examination made by Dr. Novy demonstrated the presence of B. pestis (*vide infra,* laboratory case 8).

Death 11.—(Inspected February 14) Baby 7 days old, found in undertaker's establishment on Clay St., having died at 717 Sacramento St. Advised making of cover-slip and cultures from umbilical stump and from spleen; reported negative as regards B. pestis.

Death 12.—(Inspected February 15) Ow Ah Lane, male, aged 55, coolie, who had worked at San Jose Junction, died at Kwong Chow "hospital," February 14, at 6 a. m. He had been ill for from six to seven months. No enlargement of lymph glands. Advised bacteriological examination of spleen. Reported negative as regards B. pestis.

Death 13.—(Inspected February 16) A male body was found at Quong Fook's undertaking establishment, with slight swelling in the right groin. Pathological examination negative as regards plague. No bacteriological examination made.

It will be noticed that of the thirteen deaths, which came to our attention, occurring from February 5 to February 16 inclusive, six were undoubtedly due to infection with plague. A seventh (Death No. 8) may have been a case of plague which went unrecognized. The six undoubted deaths from plague occurred during the eight days from February 5 to February 12 inclusive. During the days February 13 to February 16 inclusive, no new cases of plague or deaths therefrom were encountered.

Two of the deaths from plague occurred in the Chinese Theater on Washington Street. The other four cases occurred singly in different parts of Chinatown.

The study of cases during life and the inspection of bodies after death proves that it is often difficult and under certain circumstances impossible to make a diagnosis of plague even postmortem without bacteriological examination. In outspoken bubonic cases there will be but little if any difficulty in diagnosis, either intra vitam or postmortem provided the observer has had sufficient experience with the disease, but in the absence of primary buboes, the unskilled observer will miss practically every case and even the practitioner who has had much experience with plague may be deceived. Your Commissioners feel sure from experience with plague in Hongkong. India and San Francisco that once it is established that plague exists among the Asiatics of a town, every Asiatic who has fever should be suspected as a case of infection with plague until the disease is proved to be other than plague and every dead body should be treated as a plague cadaver until bacteriological examination of glands, lungs and spleen (including animal inoculation) has proved the absence from the body of the B. pestis. Only by such caution will it be possible to avoid missing actual plague cases.

In the following table are given the deaths per month occurring from all cases among the Chinese during the past four years as recorded by the City Board of Health. As data regarding the exact population of Chinatown at different times are not obtainable it is difficult to institute comparisons of the mortality among the Chinese with that among whites. It is obvious, however, that at no time during the past four years has the mortality rate among the Chinese increased to such an extent as to, in itself, cause alarm.

Mortality Among Chinese of San Francisco, 1897-1901.

Months.	*1897*	*1898*	*1899*	*1900*	*1901*
January	37	35	46	64	45
February	46	36	39	48	
March	38	46	37	47	
April	35	41	33	30	
May	27	34	36	42	
June	30	21	46	25	
July	39	25	34	38	
August	35	47	43	19	
September	45	27	35	27	
October	36	53	44	32	
November	39	66	37	34	
December	23	46	48	32	
Total	*430*	477	478	438	

THE PATHOLOGICAL ANATOMY OF THE CASES OF BUBONIC PLAGUE MET WITH IN SAN FRANCISCO.

1. Human cases.
2. Experimental inoculations.

In the study of the pathology of the cases of plague met with among the Chinese in San Francisco, a number of disadvantageous circumstances were contended with. In the first place, owing to the peculiar prejudices of this people, prejudices born especially of their religious beliefs and practices, permission for postmortem examination is given with great reluctance. The opposition to all mutilation of the bodies of the dead is so great that consent for autopsies was obtained only after assurances that the examinations would be limited strictly to the actual necessities for the establishment of the diagnosis of the disease.

In the next place, there is no public mortuary in San Francisco to which the dead bodies were or could be carried. Such examinations as were made were conducted in the narrow limits of a dimly-lighted alcove in an undertaker's shop or in the even worse habitations where the dead were found.

Under these circumstances, the postmortm examinations left something to be desired on the score of completeness, although in every instance the important question whether death was caused by plague was answered definitely.

The majority of the dead did not exhibit well-marked buboes. Careful palpation usually was required in order to discover swellings and edema of the groin. In all cases in which inguinal buboes were suspected or discovered, incision was performed and the diseased glands and periglandular tissue, if present, removed.

With *one* exception (Case 8) complete autopsies were not *made. In all cases,* however, the spleen was exposed and examined and parts removed. The tissues removed at autopsy were examined in three different ways: 1. Cultures upon agar agar and cover slips were made at once after removal. 2. The tissues were taken to the laboratory where additional cultures and cover-slips were prepared and examined. 3. Guinea-pigs were inoculated with portions of the tissues. Finally, portions of the tissue were placed in alcohol for future study.

HUMAN CASES.

Case 1.—Chom Ah Chou, autopsy February 5, 8 p. m. Examination was made in the presence of one of us (Flexner) by Dr. Kellogg. The examination consisted in exposing and removing the inguinal and femoral glands on both sides. Incisions were made deep into the subcutaneous tissue, extending from Poupart's ligament about one-third the length of the thigh. The tissues on the left side were swollen and edematous: the edema was sero-hemorrhagic in character and the lymphatic glands were hemorrhagic and greatly swollen. On the right side, the edema was less marked and the glands, while distinctly enlarged and reddened, were less altered than those of the left side. Sections of these glands showed them to be uniformly hemorrhagic and swollen and to contain frequently necroses visible to the naked eye.

The spleen was fully twice the normal size. It was softer than normal, the capsule was wrinkled and the color deepened.

The further examination of these tissues was made after removal to the laboratory and participated in by Drs. Barker and Novy. The examination consisted in: 1. Study of cover-slips stained in anilin dyes and treated by Gram's method. 2. Preparation of cultures upon agar agar separately by each member of the Commission. 3. Inoculation of guinea-pigs with portion of tissue from the glands and spleen. 4. Preservation of tissues in alcohol for future study.

The examination of the cover-slips from the glands, periglandular tissue, and spleen showed large numbers of bacilli decolorizing by Gram's method and presenting the morphology of the B. pestis.

Case 2.—Lee Kee, autopsy Feb. 5, 9 p. m., in the presence of Dr. Flexner, performed by Dr. Kellogg; no evidence of plague.

Case 3.—February 6, Lum Hong Yuen, autopsy made in Main Fook's undertaker shop, Drs. Kellogg, Novy and Flexner present. Upon incising the right groin from Poupart's ligament to the beginning of the middle third of the thigh, serohemorrhagic periglandular edema and uniformly enlarged and reddened glands were found. The amount of fluid was considerable; although there was enlargement of all the glands, some of them reached to the size of a horse-chestnut. On section these were of deep red color and soft consistence. Necroses were present.

The spleen was enlarged to fully double the normal size; it was softened and of a deep bluish-red color.

Cultures and cover-slips were made at once by Dr. Novy and the excised tissues taken at once to the laboratory where additional cultures were made, cover-slips examined and animals inoculated.

The cover-slips showed large numbers of bacilli, having the morphology and staining properties of B. pestis.

Case 4.—Feb. 6, Fong Sha Shong, autopsy by Dr. Kellogg in the presence of Drs. Novy and Flexner. No evidence of plague.

Case 5.—Wong Chi Lui, February 7, autopsy by Dr. Barker, 6 p. m., Drs. Novy and Kellogg present.

On inspection, there was a swelling in the left inguino-femoral region, which on incision revealed enlarged glands about the saphenous opening and in the groin. The largest gland had the size of an English walnut and was of a dark reddish-brown color. it was soft and juicy in consistence and mottled with hemorrhages and grayish-white patches of necrosis. The less swollen glands were markedly injected and contained hemorrhages. Periglandular tissue was very edematous, the fluid running freely from the incision. The spleen was about twice the normal size; soft and friable.

Cultures were made at once by Dr. Novy and cover-slips about one hour later at the laboratory, where at the same time animals were inoculated with portions of the tissue. The cover-slips from the spleen and the glands showed bacilli, presenting all the properties of B. pestis.

Case 6.—Tom Shom, February 10, autopsy by Dr. Kellogg, Drs. Barker and Novy being present.

There was a slight swelling in the right inguino-femoral region which on incision revealed slightly edematous subcutaneous tissue, with slight enlargement of the glands. The largest gland was the size of a filbert, and its surface was dark and hemorrhagic. *On section, it presente*[illegible] *other glands were* swollen, soft, juicy an[illegible] leen was enlarged, soft and friable. The [illegible] n showed that the hypodermic puncture m[illegible] of fluid for diagnostic purposes during life had failed to enter a lymph gland.

Cover-slips from the spleen and glands showed large numbers of bacilli having the characteristic properties of the B. pestis.

Case 7.—Foong Ah Fong, Feb. 12, autopsy by Dr. Flexner, Dr. Barker Present. The spleen only was examined; the organ was enlarged to about twice the normal size and was diminished in consistence. Cover-slips showed a very small number of bacilli of the size of B. pestis, although the characteristic polar staining was not observed. Cultures were made and a portion of the spleen was introduced subcutaneously into the guinea-pig.

CASE 8.—Ung Ah Buck, autopsy Feb. 12, at noon at the undertaking shop of Wing Hai, by Dr. Flexner, Drs. Novy, Barker, Kellogg and Wilson being present. The left side of the face and neck presented a marked diffuse swelling, extending from the angle of the jaw backward to the sterno-cleido-mastoid muscle and below, almost reaching the clavicle.

On incising this region the parotid gland was first reached; this organ presented a normal appearance. After dissecting away the parotid gland a group of greatly enlarged deep glands surrounding the carotid artery and jugular vein came into view. The periglandular tissue was infiltrated with bloody fluid and presented a sodden appearance. The enlarged glands and portions of the surrounding tissue were excised; the former were found to be swollen—several reaching the size of an English walnut—and to be wholly altered in appearance and consistence. In color they were deep purplish and on incision a hemorrhagic fluid exuded. Opaque points of necrosis were also present.

The general subcutaneous fat was well developed; there was no general edema. The peritoneum appeared smooth and glistning; there was no excess of fluid in the abdominal cavity and the abdominal glands were not noticeably swollen. The spleen was enlarged to fully twice its normal size: it presented a purplish color and its consistence was diminished. The pleural cavities were dry. The lungs retracted moderately upon removal of the sternum. The lower lobes of the lungs were congested, but no consolidation was made out; no other abnormality was observed in the body.

The organs and tissues removed at this autopsy, consisting of the enlarged cervical glands and spleen, were taken to the laboratory where cover-slips, cultures and animal inoculations were made. The cover-slips from the spleen showed large numbers of a bacillus having the morphology and staining properties of the B. pestis. The cover-slips from the glands differed in their appearance. In some instances there were present large numbers of bacilli similar to those in the spleen, together with a few diplococci or short chains of cocci. Other cover-slips showed, besides the organisms mentioned, a bacillus having the morphology of the B. diphtheriæ.

EXPERIMENTAL INOCULATIONS.

The animals used for experimental inoculations were half-grown and grown guinea-pigs. In order to guard against accidental infection of the locality, the animals were placed in glass jars, which in turn were placed in large crocks, the latter having been covered with wire-netting covers upon which the earthenware covers were placed. When an animal succumbed to the inoculation it was carefully removed from the jar and immersed for some time in 1 to 1000 sublimate solution. The jar itself was filled with a similar sublimate solution and the two left in contact for several days.

After subjecting the animals to autopsy, they were placed in the steamer and thoroughly steamed, after which the body was incinerated. Such portions of the tissue as were preserved for microscopical study were placed at once in 95 per cent. alcohol.

Inoculations were made subcutaneously with bits of tissue from the tissue from the human cases and pure cultures of bacilli obtained from these sources. The usual procedure was to inoculate at least two animals from each human case; one with portions of the spleen and another with portions of the lymph gland. The cultures used were derived indifferently from the spleen and from the glands.

The inoculated animals can be separated into groups, depending upon the results of the inoculation. These results in turn depended upon the virulence of the material—tissue or culture—inoculated, upon which also depended the duration of life following inoculation.

It is *important* to state that characteristic lesions were obtained from inoculated material derived from every case in which bacilli were found in cover-slips, including Case 7 in which very small numbers of bacilli were detected in the spleen.

Types of Infection.—The animals inoculated early in the course of the investigations died at periods varying from forty hours to eight days. Those inoculated later, and one or two inoculated with cultures early in the studies, but which had not succumbed, were etherized at the close of the work and subjected to postmortem examination. According to the period of survival and virulence of the inoculated material, the appearances observed denoted: 1, bacteremia without microscopical localization in the organs, and 2, focal, nodular, localizations in the internal organs. In all cases marked local lesions at the site of inoculation and in the adjoining tissues occurred.

Local Lesion.—At the point of inoculation, the tissues—skin, subcutaneous tissue and sometimes muscles—were infiltrated with pus cells and presented a yellowish focus of necrosis. From this area as a center, the subcutaneous tissue, sometimes of one side, but frequently of both sides, were occupied by gelatinous hemorrhagic infiltration.

The lymphatic glands of the inguinal and axillary regions were distinctly enlarged even in the acute cases. In those animals which died after a longer period or were killed from six to seven days after inoculation, the regional lymphatic glands were much enlarged, hemorrhagic and even necrotic. The inguinal glands were, as a rule, more swollen than the axillary.

Cover-slip preparations from the local lesion—necrotic area, subcutaneous edema, swollen lymph glands—showed large numbers of bacilli, having the characteristic morphology, staining and reaction to Gram's method of the B. pestis. Cultures from these sources gave positive results.

In one animal in which the inoculation was made with a culture, the animal being etherized on the third day, there was slight local reaction only, no involvement of the regional lymph glands and no visible lesions in the internal organs having been observed. A small number of characteristic bacilli were found in cover-slips made from the site of inoculation.

The Spleen and Liver.—In the instances of rapid death (bacteremia) the spleen was moderately large, its color was deepened, its consistence decreased, but *no focal lesions* were visible to the naked eye. Cover-slips and cultures showed numerous bacilli agreeing in characteristics with those of B. pestis.

In this class of cases, the other organs failed to show focal lesions. The lungs appeared mottled only and a few small necroses existed in the liver; numbers of bacilli were contained in all the viscera and in the heart's blood.

The focal lesions in the spleen consist of grayish-white nodules, larger than a millet seed in size, covering the surface (within the capsule) and occupying the substance of the organ; when the nodules are numerous, as e. g., in animals succumbing from the sixth to the eighth day, or after etherization at that period, when there has been a marked local reaction, the spleen is greatly enlarged, perhaps five to six times its normal size and its color is pale. Cover-slips and cultures show a very large number of characteristic bacilli if the animal has died spontaneously, while if killed the number of bacilli upon cover-slips and cultures is far less.

The liver invariably showed lesions when death had been delayed a few days. The common ones were focal necroses of varying size; these were yellow in color and in size ranged from that of a pin's point to linear and wedge-shaped areas 3 to 4 mm. in length. Only rarely did whitish nodules similar to but smaller than those occurring in the spleen occur. The best example of nodular lesions in the liver was observed in an animal inoculated with a culture derived from Case No. 1, the guinea-pig having been etherized on the eighth day after inoculation.

The Lungs.—The lungs presented a variety of appearances, only one of which was characteristic. Some times they showed no macroscopical lesions; not uncommonly, they were mottled and presented small ecchymoses beneath the pleura; rarely they contained scattered whitish nodules resembling those of the spleen, except that they were smaller and surrounded with a zone of recent hemorrhage. No effusion into the pleuræ were noted.

Subserous Hemorrhages.—These were common, especially in the peritoneum, where they occurred beneath and within the serosa of the large intestine, and in the pleura covering the lungs. They were usually small in size, although at times through confluence they reached larger dimensions. They did not give rise to an exudate or effusion into the serous cavities.

The other organs, except the adrenal glands, showed no especial changes to the naked eye. The adrenals were uniformly congested and often very dark in color and hemorrhagic.

The central nervous system was not examined.

BACTERIOLOGICAL EXAMINATIONS.

CASE 1.—Chun Ah Chou, 814 Washington St., autopsy February 5. The spleen and left femoral glands were examined. These organs were found to contain enormous numbers of bacilli, having the morphological and tinctorial properties of bacillus pestis; thus the short thick oval rods gave a bi-polar stain with Loeffler's methylene blue or with carbolic thionin and were decolorized by Gram's method. Their pathogenicity was determined by inoculation of portions of the spleen and of a pure culture, subcutaneously, into guinea-pigs.

Agar streaks made from the perfectly fresh organs showed many small white, moist, isolated colonies, having all the appearance of those of bacillus pestis. This was further confirmed by microscopic examination of living and stained preparations of such cultures. A few rapid-growing colonies due to other forms of bacteria were present. Subcultures were made in glucose gelatin, bouillon, agar, salt agar and milk. On agar in Petri dishes in twenty-four to forty-eight hours in the incubator, small white or grayish, moist colonies developed. These had a finely granular center with a smooth, sharply defined border.

The stab culture in glucose gelatin developed a slight growth along the line of inoculation. On the surface, the growth spread slightly, was grayish, moist in appearance and had a slightly wavy, raised border. No gas was formed.

In bouillon, in twenty-four hours, a diffuse cloudiness was produced. The sediment was very slight, scarcely appreciable. Subsequently, a faint stringy deposit formed. The surface remained perfectly clear with a trace of a ring or collarette.

The streak cultures on nutrient agar presented a moderate grayish-white, moist growth which, when touched with a platinum wire, could be drawn out into strings.

On 5 per cent. salt agar, the growth is very slight, scarcely visible, and shows the peculiar roundish or pyriform involution forms of the pest bacillus.

In milk the organism grows without producing any visible change in the medium.

The absence of gas-production and of coagulation of milk, together with the macroscopic and microscopic characteristics, agreed fully with the characters of bacillus pestis. The effects on animals have been described in a preceeding part of the report.

Guinea-pig No. 1 was inoculated under the skin with a portion of the spleen from the above case. It died in thirty-six to forty hours. Cultures on agar made from the spleen and heart blood gave almost pure growths of the pest bacillus. Direct examination of the organs showed enormous numbers of typical plague bacilli.

Guinea-pig No. 2 was inoculated subcutaneously with a pure culture obtained from the gland of the above case. The animal died in three days. Plague bacilli were very numerous in the spleen and inguinal glands and were also present in the heart's blood.

Case 3.—Lum Hong Huen, 28 Ross Alley, autopsy February 6. Smear preparations from the spleen showed large numbers of short thick rods, chiefly single; some oval or roundish-forms were also present. The organisms stained readily with Loeffler's methylene blue or with carbolic thionin. In the latter case the bi-polar staining was excellent. The organisms were completely decolorized by Gram. Cover-glass preparations from the gland likewise showed very numerous bacilli, occurring singly, taking the bi-polar stain, but not that of Gram. Agar cultures were made at the time of the autopsy in the undertaker's shop of Main Fook. The cultural and morphological characteristics were the same as those observed in Case 1.

Guinea-pig No. 3 received, subcutaneously, a portion of the spleen from the above case, and died in 5½ days. On autopsy the spleen was found markedly enlarged, full of white nodules which were also present in the liver and in the lungs. Cover-glass preparations from the spleen showed enormous numbers of bacilli, having all the characteristics of bacillus pestis. Agar slants were inoculated with the heart's blood and spleen of this animal. The former yielded a slightly contaminated growth but the culture from the latter was pure.

Case 5.—Wong Chi Lui, 21½ Waverly Place, autopsy February 7. Streak preparations from the spleen showed very numerous pest bacilli apparently in pure culture; the predominating form was the short thick rod, although some oval or roundish forms were present. Loeffler's methylene blue and carbolic thionin stained the bacilli readily, demonstrating the characteristic bi-polar form. The organisms were completely decolorized by Gram's method. Similar preparations made from one of the left femoral glands show fewer organisms but these in form, size and staining reactions are identical with those found in the spleen. Cultures made on agar developed very slowly; on subsequent transplantation, however, the growth was more rapid, more abundant and typical of that of bacillus pestis.

Guinea-pig No. 4 was inoculated subcutaneously with a portion of the gland from the above case. Death resulted in 3½ days. Bacilli were numerous in the spleen and corresponded in characteristics to those of the plague bacilli.

Guinea-pig No. 5 was inoculated subcutaneously with a portion of the spleen; it was found dead 3½ days later. Numerous plague bacilli were found in the spleen, heart's blood and glands. Agar streaks from the heart's blood gave numerous small colonies of pest bacilli with a few larger colonies due to foreign organisms. The spleen gave numerous isolated small moist colonies, apparently a perfectly pure culture of the plague bacillus. Agar streak plates were made at the same time and gave in twenty-four hours numerous minute colonies.

Guinea-pig No. 6: A portion of the spleen from this case was introduced into the peritoneal cavity. Death resulted in 4½ days. Pest bacilli were abundant in the internal organs and in the glands. Agar streaks from the heart's blood gave a very limited growth, while those from the spleen were scarcely visible. In this and several other instances, difficulty was experienced in starting the growth of the organism directly from the tissues. Once started, however, with subsequent transplantations, better results were obtained.

Guinea-pig No. 7 was inoculated subcutaneously with a loopful of pure culture obtained from guinea-pig No. 5. It died in 2½ days. Autopsy revealed a hemorrhagic edema and cover-glass preparations of this showed pest bacilli mixed with numerous minute diplococci and streptococci. The spleen was large and soft, contained nodules and, on staining cover-slips therefrom, enormous numbers of typical plague bacilli, apparently perfectly pure, were found. No diplococci were present.

Case 6.—Tom Shom, 814 Washington St., autopsy February 11. During life some fluid was aspirated by means of a sterile syringe, from the swelling in the right femoral region, and transferred to nutrient agar. Blood was also drawn from the lobe of the ear and planted on agar. Stained preparations made from these specimens failed to demonstrate the presence of any organism. Cultures developed pyogenic cocci, but failed to give any indication of pest bacilli. On autopsy the femoral glands, though characteristic of plague, were found not markedly enlarged. It was evident that the aspirating needle when introduced had missed the gland proper, and the failure to isolate the pest bacillus during life in this case can thus be explained. It should be noted that the periglandular tissue was but very slightly involved. Streak preparations made from the hemorrhagic gland showed relatively few typical plague bacilli. A long thick bacillus was present in small numbers. Gram's stain was negative. Streak preparations from the spleen showed the pest bacillus to be present in large numbers and apparently pure. The organisms occurred singly, gave the bi-polar stain and were decolorized by Gram.

Guinea-pig No. 6 was inoculated subcutaneously with a portion of the spleen from this case. Six and a half days later, though healthy in appearance, it was killed. A circumscribed caseous local lesion was found; there was a slight glandular enlargement on the same side. The spleen was slightly enlarged and showed white nodules; pest bacilli having the short-rod and oval form were present in small numbers.

Case 7.—Fong Ah Fong, 747 Sacramento St., autopsy Feb. 12. Streak preparations from the spleen revealed the presence of pest bacilli, although these were not very abundant; indeed, they were difficult to find in the cover-slips. Typical bi-polar staining rods and oval roundish forms were, however, found. Gram's stain was negative.

Streak cultures were made with the fresh spleen on agar slants and at the same time agar plates were made. The agar streaks failed to give an appreciable growth, but on the plate a colony was found which corresponded to that of the plague bacillus. On microscopic examination it was observed to consist of small, short, oval, non-motile rods, which decolorized by Gram. The colony transplanted to agar gave a typical growth of pest bacilli, and this culture was used to inoculate guinea-pig No. 10.

Guinea-pig No. 9 received a portion of the spleen of Fong Ah Fong, subcutaneously. It died in 4½ days. The spleen contained enormous numbers of pest bacilli which stained in the usual bi-polar manner and were decolorized by Gram. The heart's blood likewise contained the organism. Cultures were made on agar from the spleen and heart's blood of this animal; both gave numerous small moist colonies of bacillus pestis.

Guinea-pig No. 10 was inoculated subcutaneously with the agar culture mentioned above. It was killed 2½ days later. The spleen showed only a few but characteristic pest bacilli; under the skin there was but slight local change and a few typical bacilli were found.

Case 8.—Ung Ah Buck, St. Louis Alley, autopsy February 12. Cover-slip preparations from the cervical lymph glands showed the presence of several distinct organisms. The short, thick oval forms of the pest bacillus were present in small numbers; with them was associated a large thick bacillus; there were also bacilli present resembling the bacillus diphtheriæ and a diplococcus closely resembling that of Fränkel. The pest bacilli gave the usual bi-polar stain with methylene blue and with carbolic thionin. Specimens stained by Gram's method showed deeply stained diplococci, the other forms being decolorized. Smear preparations from the spleen showed many organisms resembling the bacillus pestis morphologically.

Agar streaks from the fresh spleen gave a number of discrete moist colonies which consisted of large oval non-motile bacilli, occurring singly and only occasionally in pairs; the streak cultures from the cervical gland also gave numerous isolated colonies. In both cases the cultures obtained were apparently perfectly pure and agreed in every respect with those of plague bacilli. The other bacteria seen in cover-slips did not grow. Agar plates yielded the same result.

Guinea-pig No. 11 was inoculated subcutaneously with a small portion of the spleen from the above case. In about three days the animal was very sick and was finally killed 5½ days after inoculation. Bacillus pestis was found in the spleen and to a less extent in the blood.

The bacteriological examination of the foregoing six cases has therefore demonstrated the presence of the bacillus pestis in each.

(Signed.) Simon Flexner, M.D.
F. G. Novy, M.D.,
Lewellys F. Barker, M.D.

San Francisco, Cal., Feb. 26, 1901.

Societies.

COMING MEETINGS.

American Medical Association, St. Paul, Minn., June 4-7.
American Association of Genito-Urinary Surgeons, Old Point Comfort, April 30, 1901.
Association of American Physicians, Washington, D. C., April 30, 1901.
American Gastro-Enterological Association, Washington, D. C., May 1, 1901.
Kansas Medical Society, Pittsburg, May 1-3, 1901.
American Surgical Association, Baltimore, Md., May 7-9, 1901.
American Therapeutic Society, Washington, D. C., May 7-9, 1901.
Nebraska State Medical Society, Lincoln, May 7-9, 1901.
Oklahoma Territory Medical Association, Oklahoma City, May 8, 1901.
Mississippi State Medical Association, Jackson, May 8, 1901.
Washington State Medical Society, Seattle, May 8-9, 1901.
Ohio State Medical Society, Cincinnati, May 8-10, 1901.
Arkansas Medical Society, Hot Springs, May 14-16, 1901.
Medical Association of Montana, Great Falls, May 15-16, 1901.
Michigan State Medical Society, Battle Creek, May 15-16, 1901.
Iowa State Medical Society, Davenport, May 15, 1901.
Indiana State Medical Society, South Bend, May 15-17, 1901.
New Hampshire Medical Society, Concord, May 16-17, 1901.
Medical Association of Missouri, Jefferson City, May 21-23, 1901.
Illinois State Medical Society, Peoria, May 21-23, 1901.
Medical Society of North Carolina, Durham, May 21-23, 1901.
Connecticut Medical Society, Hartford, May 22-23, 1901.
Kentucky S[illegible]ille, May 22-24, 1901.
Medical So[illegible]ton, May 22-24, 1901.
American [illegible] and Otological Society, New York City, May [illegible], 1901.
American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.
American Gynecological Association, Chicago, May 28, 1901.
American Climatological Association, Niagara Falls, N. Y., May 30, 1901.
American Association of Military Surgeons of the United States, St. Paul, May 30, 31, June 1, 1901.
American Academy of Medicine, St. Paul, Minn., June 1-3.
National Con. State Medical Examiners and Licensing Boards, St. Paul, Minn., June 3.
Association of American Medical Colleges, St. Paul, June 3.
American Medical Editors' Association, St. Paul, June 3.
Minnesota State Medical Society, St. Paul, June 3.

American Proctological Association, St. Paul, Minn., June 4-5.
American [illegible], Chicago, June 4-6.
Rhode Isla [illegible] lence, June 6.
Internatio [illegible] Surgeons, Milwaukee, June 10-12.
Medical Society of Delaware, Lewes, June 11.
American Medico-Psychological Association, Milwaukee, Wis., June 11-14.
Maine Medical Association, Portland, June 12-14.
Massachusetts Medical Society, Boston, June 12.
Colorado State Medical Society, Denver, June 18.
American Orthopedic Association, Niagara Falls, June 18-20.
Medical Society of New Jersey, Allenhurst, June 25-27.
Wisconsin State Medical Society, Waukesha, June 26.

Roentgen Society of the United States.—The next meeting of this Society will be held at the University of Buffalo, N. Y., September 10 and 11.

Southwestern Medical Association of Kentucky.—The thirteenth annual meeting of this organization will be held in Paducah, May 14 and 15.

Onachita County (Ark.) Medical Association.—This Association was recently organized at Camden, and elected Dr. James T. Henry, Eagle Mills, president.

Southern Railway Surgeons.—The sixth annual meeting of the Surgeons of the Southern Railway will be held at Mobile, Ala., May 7, 8, and 9. Dr. Samuel R. Miller, Knoxville, Tenn., will preside.

Southeast Missouri Medical Association.—The twenty-sixth annual meeting of this Association will be held at Charleston, May 7, 8 and 9, under the presidency of Dr. Moses Rosenthal, Kennett.

Bradford County (Pa.) Medical Society.—At the meeting of this Society, in Burlington, April 16, delegates were selected to the State Medical Society and to the American Medical Association.

Cumberland County (Pa.) Medical Society.—At the meeting of this Society, at Mechanicsburg, April 10, delegates to the State Medical Society and to the American Medical Association were elected.

St. Louis (Mo.) District Medical Society.—The fifth semi-annual meeting of this Society occurred April 11, at St. Louis. Dr. Frank J. Tainter, Warrenton, was re-elected president, and Dr. John C. Murphy, St. Louis, elected permanent secretary. The next meeting will be held in St. Charles.

Pike County (Ohio) Medical Society.—The annual meeting of this Society was held at Flat, April 8, and the following officers elected: Dr. E. M. Dixon, Flat,. president; Dr. J. S. Wiseman, Beaver, vice-president; Dr. Charles H. Willson, Idaho, secretary, and Dr. Orrin C. Andre, Waverly, treasurer.

Northwestern Wisconsin Medical Association.—At the annual meeting of this Society, held at Stevens Point, April 9, the following officers were re-elected: Dr. Carl Von Neupert, Jr., Stevens Point, president; Dr. Viola M. French, Neillsville, vice president, and Dr. Daniel R. Freeman, Colby, secretary and treasurer.

DeWitt County (Ill.) Medical Society.—This Society met at Clinton, April 9, for its annual session, and elected the following officers: Dr. Albert E. Campbell, Clinton, president; Dr. Curtis C. McMackin, Wapella, vice-president, and Dr. John H. Tyler, Clinton, secretary and treasurer.

Hill County (Texas) Medical and Surgical Association.—At its meeting in Hillsboro, April 11, this Association elected the following officers: Dr. Edwin L. Sessions, Hillsboro, president; Dr. George W. Benton, Woodbury, vice-president; Dr. Allen J. Gilbert, Hillsboro, secretary, and Dr. Benjamin F. Smith, Hillsboro, treasurer.

Marshall County (Ala.) Medical Society.—At the annual meeting of this Society, held at Guntersville, Dr. Thaddeus A. Casey, Albertville, was elected president; Dr. Peter M. Baker, Snead, vice-president; Dr. Miles B. Stephens, Whitesville, secretary and treasurer, and Dr. P. B. Lusk, Guntersville, county health officer.

Hampden District (Mass.) Medical Society.—This Society held its annual meeting at Springfield, April 16, elected delegates to the American Medical Association, and also the following officers: Dr. Lawton S. Brooks, Springfield, president; Dr. Stephen A. Mahoney, Holyoke, vice-president, and Dr. Harry C. Martin, Springfield, secretary and treasurer.

Shelby County (Ind.) Medical Society.—This Society has elected the following officers: Dr. Morris Drake, Shelbyville, president; Dr. Henry E. Phares, Morristown, vice-president; Dr. Frank Campbell, Shelbyville, secretary, and Dr. Joseph Bowlby, Shelbyville, treasurer. Delegates were also elected to the state society and to the American Medical Association.

Fairfield County (Conn.) Medical Association.—The one hundred and ninth annual meeting of this Society was held at Bridgeport, April 8, and the following officers were elected: Dr. Franklin P. Clark, Danbury, president; Dr. Nathaniel E. Wordin, Bridgeport, vice-president, and Dr. J. Murray Johnson, Bridgeport, reporter. Delegates to the American Medical Association were also chosen.

Medical Association of Dutchess County (N. Y.).—This branch of the New York State Medical Association was organized at Poughkeepsie, April 11, and elected the following officers: Dr. Irving D. LeRoy, Pleasant Valley, president; Dr. Edwin Barnes, Pleasant Plains, vice-president; Dr. John W. Atwood, Fishkill-on-Hudson, secretary, and Dr. Monroe T. Pultz, Stanfordville, treasurer.

Windham County (Conn.) Medical Association.—The one hundred and eighth annual meeting of this Association was held April 11, at Putnam. Dr. Laura H. Hills, Willimantic, was elected president; Dr. Frank H. Coops, Danielson, vice-president, and Dr. James L. Gardner, Central Village, clerk and treasurer. The Association will hold its next annual meeting at Willimantic, in April, 1902.

Missouri State Medical Association.—The preliminary program, just issued, for this Association's meeting at Jefferson City, May 21, 22 and 23, indicates that the sessions will be interesting and profitable. The meetings will be held in Representative Hall, the headquarters will be at the Madison Hotel, and Dr. Robert E. Young is chairman of the committee of arrangements.

Plymouth County (Mass.) Medical Society.—This Society met at Brockton, April 17, and elected the following officers: Dr. Alfred A. Mackeen, Whitman, president; Dr. Jesse H. Averill, Campello, vice-president; Dr. Frank H. Burnett, Brockton, secretary, treasurer and reporter, and Dr. Charles E. Lovell, Whitman, librarian. Delegates to the American Medical Association were also chosen.

Lebanon County (Pa.) Medical Society.—At the annual meeting of this Society, April 10, the following officers were elected: Dr. John J. Light, Schaefferstown, president; Drs. William R. Roedel, Lebanon, and H. W. Goss, Mount Aetna, vice-presidents; Dr. Charles M. Strickler, Lebanon, secretary; Dr. Charles L. Miller, Lebanon, treasurer; Dr. Henry H. Roedel, Lebanon, censor, and Dr. Samuel P. Heilman, Heilmandale, medical and surgical reporter.

Cumberland County (N. J.) Medical Society.—At the meeting of this Society, at Bridgeton, April 9, delegates to the State Medical Society and the American Medical Association were named, and the following officers elected: Dr. Leslie L. Hand, Leesburg, president; Dr. Grafton E. Day, Millville, vice-president; Dr. John C. Applegate, Bridgeton, secretary, and Dr. Joseph Tomlinson, Bridgeton, treasurer.

Triple State Medical Association.—This Society met for organization at Ashland, Ky., April 18. The following officers were elected: Dr. Lester Keller, Ironton, Ohio, president; Drs. John H. Wade, Ashland, Ky., and William F. Sturgill, Ceredo, W. Va., vice-presidents; Dr. James W. Kincaid, Catlettsburg, Ky., secretary, and Dr. J. M. Salmon, Ashland, Ky., treasurer. The Society adjourned to meet at Huntington, W. Va., July 18.

New York County Medical Association.—The annual election of officers of this Association, April 15, resulted as follows: Dr. Parker Syms, president; Drs. Alexander Lambert and Francis W. Murray, vice-presidents; Dr. Ogden C. Ludlow, recording secretary; Dr. Montefiore L. Maduro, corresponding secretary, and Dr. Charles E. Denison, treasurer. Dr. E. Eliot Harris, on behalf of the Association, presented a bronze statuette to James Taylor Lewis, counsel to the Association, in appreciation of the work done by him in regard to fixing the legal status of the Association, etc.

Western Ophthalmologic and Oto-Laryngologic Association.—The sixth annual meeting, held at Cincinnati, April 11 and 12, was the most successful in the history of the Association. The following officers were elected: Dr. Christian R. Holmes, Cincinnati, president; Drs. William L. Dayton, Lincoln, Neb., Joseph O. Stillson, Indianapolis, and Hanau W. Loeb, St. Louis, vice-presidents; Dr. William L. Ballenger, Chicago, secretary, and Dr. Otto J. Stein, Chicago, treasurer. The next annual meeting will be held in Chicago, in April, 1902.

International Congress of Physiologists.—It is announced that the sessions of the Congress from September 17 to 20, inclusive, will be occupied by demonstrations and communications, and that the sessions of September 21 and 23 will be supplementary and devoted chiefly to the reports of the International commission dealing with the standardization of recording apparatus, calorimetric methods, etc. Dr. Z. Treves, local secretary, Corso Raffaelo, Turin, requests that all titles of communications or experiments be sent him not later than August 1. Prof. Frederic S. Lee, Columbia University, New York City, is acting secretary for America.

Louisville Pathologic Society.—This Society was formally organized April 15, with the following officers: Dr. Thomas C. Evans, president; Dr. James B. Bullitt, vice-president; Dr. James K. Freeman, secretary; Dr. Rowan Morrison, treasurer, and Dr. James Vance, curator. The Society has upwards of forty members and the membership and the roll is increasing each day. Meetings will be held on the third Monday of each month except in July and August. There is to be no social feature of the meetings, as is the custom with those in existence at present.

Florida State Medical Association.—The twenty-eighth annual session of this body was held at Jacksonville, April 10 and 11, under the presidency of Dr. William L. Hughlett, Cocoa, who in his address announced that he had been made a member of the committee on organization of the American Medical Association, and urged on the Association the need for closer relations between the state and national associations, for a national board of health, for a national medical university and for uniform laws to govern the practice of medicine. The following officers were elected: Dr. A. Judson Wakefield, Jacksonville, president; Drs. Louis DeM. Blocker, Chattahoochee, and George E. Welch, Palatka, vice-presidents; Dr. J. D. Fernandez, Jacksonville, secretary, and Dr. Edward N. Liell, Jacksonville, librarian. The association will meet in 1902 at Tampa.

CALIFORNIA ACADEMY OF MEDICINE.

Meeting held March 26.

The President, Dr. D. W. Montgomery, presiding.

Modified Procedure for Uterine Carcinoma.

Dr. Henry Kreutzmann read a paper on "Suggestion for a Modified Procedure in Performing Hysterectomy for Cancer of the Uterus." He reviewed the history of the operation, and called attention to the frequent fluctuations between the abdominal and vaginal methods, going back to the time of the first vaginal hysterectomy, performed in 1822, by Dr. Sauter, in Constanz, Germany. The author favors the vaginal operation. He has the greatest respect for the experience to be gained from the hundreds of cases gathered from the enormous material of the big clinics of this country and abroad, but the deductions are not always unbiasedly derived from an accumulation of operations, and sometimes operations are performed with the intention of proving a point. He has had an opportunity of seeing his patients for a long period of time, and has observed that there are cases of vaginal hysterectomy where the uterus is removed for carcinoma, where the malignant growth was proved to exist by competent pathologists, and where the woman remained free from relapse for years. Time and again clinical histories of cases have induced him to consider a neoplasm of recent origin; examination showed apparently a slight affection only; but after hysterectomy, the inspection of the divided uterus demonstrated a great encroachment of the disease.

Considering the decided possibility of permanently curing certain forms of carcinoma of the uterus by vaginal hysterectomy, on one side, and on the other, the impossibility of exactly diagnosing the extent of the disease before the organ is cut open, the idea suggested itself to him to remove the uterus through the vagina, to cut open and to inspect the uterus, and then decide on further procedure. If he found that the vaginal portion only was invaded, or that it was a circumscribed carcinoma of the fundus, and that he could expect with reasonable surety that relapse would not occur, then he could be satisfied with a vaginal operation. If, on the contrary, he found that the disease had progressed farther than was expected, that relapse would surely follow vaginal hysterectomy, then he would open the abdomen and remove all the tissue that it was proposed to remove by the abdominal operation.

Dr. James F. McCone said that he was not quite decided regarding the method of operation in carcinoma of the uterus. In that involving the fundus, where the surrounding tissue was not affected, the removal is easy by the vagina, but in those cases involving the cervix, where the tissue extends to, and involves, the rectum and vagina, operation by either method is apt to be disappointing. In these latter cases the radical abdominal operation is certainly the best method, and it should be thorough, care being taken to remove all infected structures surrounding the uterus.

Dr. J. Henry Barbat said that if tissue is removed simply to temporarily relieve, the vaginal operation is a good one, but if an attempt is made to eradicate the disease, then the abdominal operation gives better results. One can not always tell by physical examination how far the disease has extended, or how much the surrounding structures have been involved. He doubts very much the ability of any operator to remove as much tissue below as can be removed through an abdominal incision. Then, again, the abdominal operation allows of the specimen being removed in one piece, without a great amount of bruising, tearing and squeezing, all of which are factors in recurrence.

Dr. G. Caglieri said that during the last two or three years he had followed carefully the arguments of the advocates of the two methods of operation. In the beginning of a case of cervical carcinoma, vaginal operation certainly seems simple. A woman 45 years of age came to him some time ago, with a carcinoma of the cervix. As this had been treated by her family physician for some months with no results, and as some of her symptoms made him suspicious that it was carcinoma, he removed it per vaginam. A pathologist, to whom he submitted the specimen, said it was not an epithelioma. One and one-half months later, however, a hard fungoid mass developed in the vagina, which certainly was an epithelioma. He is satisfied that she had a recurrence.

Dr. Kreutzmann, in closing, said that this same dispute had been going on for one hundred years. At present he is in doubt as to what should be done, for these patients seldom remain well permanently. To get the case early is most important. He has concluded that certain men, having a favorite method of operation, use that method merely in their endeavor to prove it the correct one.

Cartilage in the Knee-Joint.

Dr. J. Henry Barbat exhibited pathologic specimens. The first was a triangular piece of cartilage, 3x2 centimeters in size, which he had removed from the left knee-joint of a man 29 years of age, who gave a history of having sprained his knee five years previously. He complained of considerable pain, and physical examination revealed considerable thickening of the joint, while at the inner side of the ligamentum patellæ the edge of the hard body could be pushed in under the ligament with ease. Operation was done under local anesthesia, and the hard body dislodged with considerable difficulty, and removed with strong mouse-toothed forceps. The wound was closed and dressed dry. After forty-eight hours great pain developed, his pulse rose to 120, and his temperature to 101. The knee was much swollen and tender. He removed one of the skin sutures and passed a probe down into the joint, allowing two ounces of slightly bloody serum to escape, which proved to be perfectly sterile on culture-media. Two days following more serum was removed. By the twelfth day his condition became normal, the pain disappeared, and he was able to walk on the fourteenth day, after operation. He reported this case to show how much disturbance might be caused by invading a large joint even when no sepsis was present. The specimen looked as though it might have been a portion of one of the semilunar cartilages, which had been broken off at the time the patient sprained his knee.

Adherent Appendix and Ovarian Cyst.

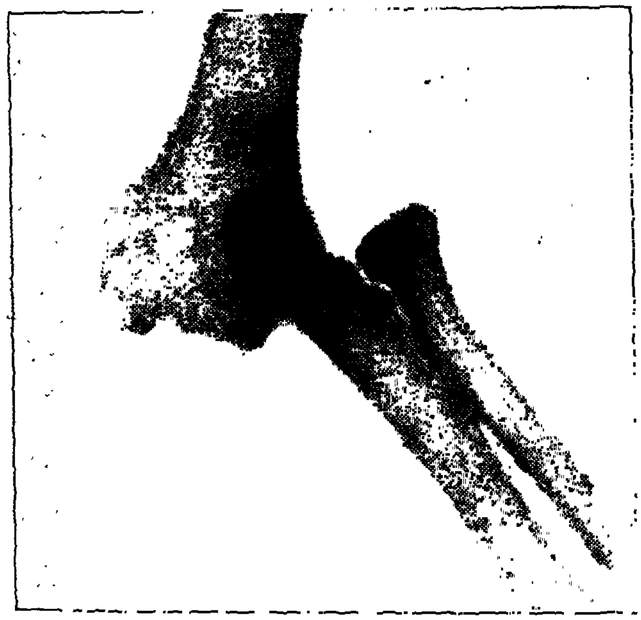
This specimen was from Miss H., who had been treated for two weeks previous to his seeing her, for some pelvic disturbance, without any relief. He found a tender fluctuating mass in Douglas' cul-de-sac, in which a vaginal incision was made and pus liberated. A drainage-tube was inserted and remained for one week, when the discharge had practically ceased. The patient was able to go to his office two weeks from the date of operation. There was still a mass on the right side of the uterus, but otherwise the patient felt perfectly well. Four weeks from the date of the first operation she was taken suddenly with severe pain over McBurney's point, felt nauseated, and the appendix was found extremely tender. Immediate operation was consented to and the appendix found passing directly down into the pelvis, and the tip adherent to a mass in the right broad ligament. The adhesion was separated and the appendix removed. This mass proved to be an intraligamentous cyst, which was removed with the tube on that side. The left adnexa were in fair condition and were not disturbed.

This case illustrates the fact that pelvic peritonitis, from whatever cause, if followed by adhesions, is a causative factor in the production of ovarian cysts. The adhesions which surround the ovary prevent the proper rupture of the Graafian follicle, the secretion is retained, the ovum can not enter the Fallopian tube, and an ovarian cyst is born, which may subsequently rupture and be absorbed, or which may keep on growing until it causes grave disorder, and requires removal.

Dr. Caglieri asked if the introduction of olive oil into the abdomen was of more use in the prevention of adhesions than that of normal salt solution.

Dr. Barbat replied that he had used it on several occasions, and had sometimes seen good results.

Dr. Kreutzmann said that he did not agree with Dr. Barbat when he called these specimens cysts of the ovaries. The ovaries presented were inflammatory; he had seen any number of them, always growing fast to the broad ligament. Cysts are nothing but enlargements of the Graafian follicles. He thinks it proper to be as conservative as possible in operating on these cases, and that a piece of the ovary should be left in whenever possible. These women should keep on menstruating. If all ovarian tissue is taken out and woman ceases to menstruate, she usually suffers more than before. All we can do to prevent adhesions is to see that the bowels move soon after operation, and sew up all tears in the peritoneum.



Dr. Barbat, in reply, said that in these cases he invariably gives a rectal infusion of coffee and Epsom salts, before the patient leaves the table. The adhesions that are particularly hard to prevent are those where an ovary and tube, being bound down, are separated, leaving very raw surfaces. He draws these ovaries outside the abdomen, wipes them dry, removing as much as possible all little stringy adhesions, then with the introduction of sterile oil he has found that adhesions are less likely to form again.

Dislocation of Elbow.

Dr. J. W. Shiels reported a case and exhibited a patient who had recently fallen, sustaining a lateral dislocation of the right elbow. Dr. F. B. Carpenter was called and suggested making a skiagraph before reduction. This was done. The skiagraph, shown here, was also presented to the Academy. The dislocation was reduced, the arm put in plaster for forty-eight hours, when it was removed, and passive motion carefully commenced.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

A Precipitation.

A subscriber writes us concerning the following prescription which occurred in The Journal issue of March 31, 1900. He states that in compounding the prescription that a precipitation occurs and he inquires the reasons for such a reaction:

℞.	Ext. Jaborandi flu.		
	Ext. belladonnæ flu., āā	ʒi	4
	Ext. tritici repentis fl.	℥ss	16
	Ext. ergotæ flu.		
	Ext. rhois arom., āā	℥i	32
	Aquæ	℥ss	16

M. Sig.: One teaspoonful three times a day.

We wish to state that the reaction of which our subscriber speaks is not due to any incompatibility of the drugs in the prescription, but is due to the fact that some of these preparations have constituents which are insoluble in water and consequently are thrown down whenever water is used as the vehicle. It must be remembered that each of the above preparations are held in solution by alcohol, consequently some vehicle equal in strength to it should be used. Glycerin or alcohol substituted for the aqua will correct the trouble.

Treatment of Scabies.

Eichhorst states that the simplest remedy for the cure of scabies consists in the following combination:

℞.	Balsami copaibæ		
	Liq. styracis, āā	℥i	32

M. Sig. Rub the skin well morning and evening for two days, and on the third day take a hot bath and wash the skin with green soap.

It is further stated in his practice of medicine that the solution of Vlemingkx is used a great deal in treatment of scabies:

℞.	Calcii	ʒvi	24
	Sulphuris	℥iss	48
	Digest with rain water	Oi	500
	And evaporate to	℥ixss	300

Sig.: Use as an inunction. Avoid excessive friction of the skin.

For Prostatorrhea.

℞.	Tinct. nucis vom.	m. x	64
	Tinct. cantharidis	m. v	32
	Liq. ferri et ammon. acetatis q. s. ad	℥vi	192

M. Sig.: One tablespoonful three times a day after meals.

Bronchopneumonia in Infants.

Carrière, in *Med. News*, says that when the disease has declared itself, keep the patient in bed in a well-ventilated room, wrap the limbs in cotton and change the position of the child frequently. Administer plenty of milk, bouillon and beef juice, and much water to drink. To lessen the congestion and increase the evacuation of the pathological products, give syrup of ipecac in teaspoonful doses every five minutes till vomiting supervenes, and follow by warm water. Then give the following:

℞.	Ergotin	gr. iii-viii	20-50
	Strych. sulphatis	gr. 1/150	0004
	Syrupi simplicis	ʒvi	24
	Aquæ q. s. ad.	℥iv	128

M. Sig.: One tablespoonful every three hours.

Dry cupping, mustard plasters or poultices are of benefit. Stimulate the body with warm baths or mustard baths, and with a suppository at night as follows:

℞.	Quininæ hydrobromatis	gr. i-iv	06-25
	Cacao butter, q. s.		

M. Ft. suppos. No. i. Sig.: One such suppository night and morning.

Cleanse the nasal passages and the mouth with antiseptic solutions.

As a bronchial antiseptic the internal administration of eucalpytus, terpin hydrate, sodium benzoate in small doses are advisable. For the feeble heart give digitalis, spartein sulphate or caffein benzoate. For the dyspnea administer oxygen; for the collapse. friction with hot flannels wet with spirits of camphor. During convalescence give oleum morrhuæ or the following:

℞.	Calcii lactophos.			
	Calcii glycerophos. āā	gr. iiss		15
	Aq. destil. q. s. ad	℥iv	128	

M. Sig.: One teaspoonful four times daily.

Simple Catarrhal Conjunctivitis.

℞.	Acidi borici	gr. xxx	2	
	Sodii chloridi	gr. iii		20
	Aq. camphoræ	℥i	32	
	Aq. destil. q. s. ad	℥iii	96	

M. Sig.: Apply to the eye every two or three hours; or

℞.	Zinci sulphatis	gr. ss		03
	Sodii biboratis	gr. iiss		15
	Aq. camphoræ	℥ss	16	
	Aquæ q. s. ad	℥i	32	

M. Sig.: Two or three drops in the eyes twice or three times a day.

Chronic Catarrhal Conjunctivitis.

Dr. Guttman, as noted in *Merck's Archives*, recommends the following:

℞.	Zinci sulphatis	gr. viii		50
	Hydrarg. chloridi corros.	gr. ss		03
	Aq. destillatæ	℥iss	48	

M. Sig.: Instill into the eye daily.

He states that in rebellious cases the lids should be touched once a day with crystallized alum; if this causes too much smarting, it may be preceded by the instillation of a few drops of a 2 per cent. solution of cocain. Should the case be very old the lids must be painted with a 2 per cent solution of zinc sulphate, followed by a good washing. In cases of marked hyperemia, eye douches are useful. The water should be at a temperature of 70 degrees F., and a little eau de Cologne added makes it more effective. The stream is directed on the closed lid two or three times daily for several minutes each time.

Chronic Articular Rheumatism.

℞.	Liq. potassii arsenitis	ʒi	4	
	Potassii iodid	ʒiv	16	
	Sodii salicylatis	ʒv	20	
	Syrupi sarsap. compos.	℥iss	48	
	Aq. menthæ pip. q. s. ad	℥iv	128	

M. Sig.: One teaspoonful in half glass of water after each meal; or:

℞.	Potassii iodidi	ʒii	8	
	Vini colchici sem.			
	Tinct. opii camph. āā	℥i	32	
	Tinct. stramonii	ʒiii	12	
	Tinct. cimicifugæ q. s. ad	℥iv	128	

M. Sig.: One teaspoonful three times a day in water.

The Uses of Formalin.

A. C. Jordan, of London, states that the use of formalin has been abandoned to some extent on account of its irritating properties and the pain it may produce. He has found that this may be overcome to a great extent by using glycerin as a vehicle instead of water. He has used, with success, glycerin in strength of from 1 to 4 per cent. for the following conditions: 1, as an application to the throat; 2, as a mouth wash; 3, as an application to the skin; 4, as a urethral injection.

As an application to the throat in follicular tonsillitis he applies it locally with a brush, and finds that the glycerin spreads rapidly over the tonsil and into the crypts. He uses it in 2 per cent. to 4 per cent. strength as a specific in early stages of tonsillitis. The application may be attended by a little soreness lasting a few hours. In pharyngeal diphtheria he has met with good results by these applications. For the mouth a single application of a 2 per cent. solution followed by a good mouth wash is successful in stomatitis. In parasitic diseases of the skin as in tinea tonsurans (ringworm) he thoroughly cleanses the skin and carefully rubs in a 4 per cent. solution. One application is sufficient, followed by the application of zinc ointment.

Furunculosis.

George T. Jackson, in *Med. News*, gives following treatment for boils: Attend to the general health, look for diabetes or other constitutional diseases, and give tonics. Among the remedies the following are recommended:

℞.	Calcii sulphidi	gr. 1/10		006
	Sacch. lactis q. s.			

M. Sig.: One such capsule every two hours; and:

℞.	Syrupi hypophos. comp	℥iii	96	

Sig.: One to two teaspoonfuls three times a day.

Yeast is used a great deal in treatment of furunculosis. It can be used in doses of a wineglassful daily.

It is further stated that furuncles should never be poulticed nor squeezed. They are frequently aborted by injecting a drop or two of pure carbolic acid, applying an ointment of hydrarg. oxidum rubrum or painting with iodin. If the boil is mature thrust pure carbolic acid into its central opening with a sharp-pointed toothpick and dress with an antiseptic dressing of aristol or boric acid.

Ichthyol in Erythema Nodosum.

A. Brownlie, in *New York Lancet*, states he has had success from the use of ichthyol in treatment of erythema nodosum. prepared as follows:

℞.	Ichthyoli ammon.	ʒii	8	
	Spts. vini rectif.			
	Aetheris, āā	ʒiii	12	

M. Sig.: Paint upon the affected part.

He states that by this application relief from the burning pain was quickly relieved. He further states that the method of preparing the paint is important. The last two preparations should first be mixed together, and then add the ichthyol.

Treatment of Gonorrhea.

℞.	Hydrastinæ hydrochlor.			
	Zinci acetatis, āā	gr. viii		5
	Glycerini	ʒiv	16	
	Aq. destil. q. s. ad	℥iv	128	

M. Sig.: Inject three or four times a day; or:

℞.	Ichthyoli	ʒiss	6	
	Glycerini	℥i	32	
	Aq. destil. q. s. ad	℥viii	256	

M. Sig.: Inject four or five times a day and retain the fluid for several minutes.

Treatment of Lupus.

Dr. L. Butte recommends that the entire field occupied be thoroughly cleansed with the following antiseptic solution:

℞.	Hydrarg. chloridi corros.	gr. v		30
	Tinct. benzoini	m. lxxv	5	
	Tinct. saponis	℥iss	48	
	Aq. destil.	℥vii	224	

M. Sig.: Cleanse the parts thoroughly.

Then apply compresses saturated with a 2 per cent. solution of potassium permanganate for ten or twelve minutes. Repeat every day. He claims by this method to be able to effect a cure as a rule in two or three months. —*Merck's Archiv.*

Removal of Powder Stains.

Dr. J. Neely Rhoads, of Philadelphia, states in *Amer. Medicine*, that he has removed with success, powder stains from the face due to firecrackers, etc., by means of the application of hydrogen peroxid. He applied it in full strength and gave it to the patient to apply at home. Within two days she called at his office with the powder marks all removed. So far, this is the only case in which he has had a chance to test the virtue of the treatment, but it behooves the general practitioner to carry this in mind until the fifth of July next, when he may have ample opportunity to test it.

Medicolegal.

Insanity, Commissioners of; Proof of; Charging.—The Supreme Court of Nebraska holds, in the case of Biddle vs. Jenkins, that the commissioners of insanity of that state have cognizance not only of applications for admission to the hospital for the insane, but also for the safe-keeping otherwise of insane persons in their respective counties. An affidavit filed with the commissioners, alleging that a person resident of their county is insane, and his being at large is dangerous to the community, confers jurisdiction upon the board to act. But insanity, the court holds, can not be established by proof of the reputation of the person so charged. Moreover, in an action against the person making such an affidavit for false imprisonment and malicious prosecution, the court holds that the advice of counsel with regard to making the charge contained in the affidavit, to be of any avail as a defense, must have been given after a full and fair statement of all the facts within the knowledge of the person seeking the same and making the affidavit, and must have been relied upon in good faith.

Commitment to Insane Asylum without Notice.—Mr. Justice Marean holds, at a special term of the Supreme Court of New York, Kings County, in the habeas corpus case of People ex rel. Sullivan vs. Wendel, that a person finally adjudged insane, and committed to perpetual restraint, without notice or hearing, is deprived of his liberty without due process of law, and that the insanity law of that state, so far as it permits this, is in violation of the constitution. He says that when one has been duly adjudged insane—when his status as an insane person has been duly established—personal notice, or notice of proceedings affecting his interest, may be dispensed with, if it appears that such service would be prejudicial to his mental condition. But, for the protection of those who are sane, it ought not to be tolerated that any person should be adjudged insane, and finally committed, without either notice or actual hearing. It is doubtful, also, he holds, if the commitment of an alleged incompetent to the custody of her sister, even if it were valid, warranted her transfer to the hospital by the commission. The statute only permits transfers from one hospital to another.

Use of Preservative in Butter.—The first appellate division of the Supreme Court of New York holds unconstitutional, in the case of People vs. Biesecker, a statute of that state, which, without a suggestion, so far as the statute itself is concerned, either in the title or in the body of the act, that its purpose is to protect the health of the people or to prevent fraud being practiced upon them, prohibits the sale of any butter or other dairy products containing a preservative, except salt in butter and cheese, etc., and prohibits the sale or advertising for sale of any substance for use in violation of this provision. It says that if the legislature had the power to thus prohibit the use of a substance, no matter how valuable it might be, or the extent of its utility, then it could prohibit the use of any preservative in butter, milk, or cheese. It is thought by not a few people, it goes on to say, that salt not only preserves, but actually adds to the quality of, butter; and it may not be entirely optimistic to assert that, with our increased knowledge, another substance may yet be discovered which will preserve and add to the quality of butter even to a greater extent than salt does, and if such substance should be discovered, and it were not prejudicial to the public health, no one would seriously contend that the legislature could prohibit its sale or use.

Theory of Dying Declarations.—The Supreme Court of Florida says, in the case of Richard vs. State, that the dying declaration of a person mortally wounded in reference to the circumstances which caused death, in cases where the death of the declarant is the subject of investigation, are admissible in evidence when the declarant is in extremity, believes death is imminent, and he is without any hope of recovery. When the party is in extremity, all hope of this world gone, every motive of falsehood silenced, and the mind induced by the most powerful considerations to speak the truth, the situation is so solemn and so awful as to be considered by the law as creating an obligation equal to that of an oath administered in court. But the circumstances under which such statements are made must be shown, in order that the court may determine whether the declarations should be considered by the jury. The fact that dying declarations are made in response to questions asked the declarant is no ground for excluding them; nor is it material, as to their admissibility, that the questions are omitted, and the answers only given, when they are reduced to writing, read over, and signed by the declarant. Neither is it material that the attending physicians try to encourage him by telling him that his wounds are not serious, when his reply shows that he has no hope of recovery, as where one was so firm of the belief that he was going to die that he instantly told the doctor, who tried to encourage him, that he would die.

Liability of County for Service in Smallpox Case.—The Court of Chancery Appeals of Tennessee holds, in the case of Allen vs. Dekalb County, that the act of that state of 1885 does not restrict the county board of health to action only during the existence of an epidemic, but authorizes and requires it to act whenever cholera, yellow fever, or other contagious and epidemic diseases are either threatened or exist in its county. It does not wish to be understood as holding that the existence of a single case of smallpox in a county constitutes an epidemic in that county. But it is clear, it says, that smallpox is one of the diseases mentioned in the act as contagious or epidemic diseases. It belongs to that class of diseases which, unless restricted and prevented by vigorous measures, becomes epidemic, and it was to prevent the spread of just such diseases that the act of 1885 was passed. It considers, too, that it may take judicial knowledge of the fact that in cases of smallpox a strict and rigid quarantine of the persons affected or exposed is always required. Wherefore, although it does not find any power imposed upon the county judge by law to appoint a county health officer or jail physician during the temporary absence of that official, it holds that the employment at such a time by the county board of health of a physician to attend a suspected case of smallpox and take measures to prevent the spread of smallpox from the patient is both proper and necessary. Moreover, it being provided by the act that all necessary expenses incurred by the board of health in preventing or rstricting such epidemic diseases shall be made a *county charge*, the county court being directed to order their payment, this, the court holds, fixes upon the county a liability for all reasonable expenses and charges incurred in such a case as that just stated, including liability for the services of the physician temporarily employed by the board of health. Nor does it consider that it would make any difference that he was a partner of the regular county health officer and had agreed with the latter to do the county business during the latter's absence. Private agreements, the court declares, can not be recognized as substituting one individual, who has not been duly elected and chosen for a public officer, for another, who has. Besides, even conceding—what it does not think can be—that the physician appointed in this emergency was either *de facto* or *de jure* at that time county jail physician or health officer, the court says that the law imposes no such duties upon that official as he was called upon to discharge in this case. So the court takes it that, if the county jail physician or health officer should be required to give his time and attention during an epidemic of yellow fever, cholera, smallpox, or the like, to the suppression of the disease, he would be entitled to compensation for such time and attention aside from his salary fixed by the county court as compensation to him for services rendered as county jail physician. Nor is the county court given any power to adjudicate or pass upon the merits and amount of any such claim in a final and conclusive way. Neither does the law require the exact amount of the physician's compensation in such a case as this shall be agreed upon beforehand. Last of all, the court holds $500 a low and reasonable charge for the services rendered in this case, the physician having given 30 days' time, and, besides treating the case of smallpox, rendered most efficient services in respect to quarantine and disinfection and lost at least $266 in his

As a bronchial antiseptic the internal administration of eucalpytus, terpin hydrate, sodium benzoate in small doses are advisable. For the feeble heart give digitalis, spartein sulphate or caffein benzoate. For the dyspnea administer oxygen; for the collapse. friction with hot flannels wet with spirits of camphor. During convalescence give oleum morrhuæ or the following:

℞.	Calcii lactophos.			
	Calcii glycerophos. āā	gr. iiss		15
	Aq. destil. q. s. ad	℥iv	128	

M. Sig.: One teaspoonful four times daily.

Simple Catarrhal Conjunctivitis.

℞.	Acidi borici	gr. xxx	2	
	Sodii chloridi	gr. iii		20
	Aq. camphoræ	℥i	32	
	Aq. destil. q. s. ad	℥iii	96	

M. Sig.: Apply to the eye every two or three hours; or

℞.	Zinci sulphatis	gr. ss		03
	Sodii biboratis	gr. iiss		15
	Aq. camphoræ	℥ss	16	
	Aquæ q. s. ad	℥i	32	

M. Sig.: Two or three drops in the eyes twice or three times a day.

Chronic Catarrhal Conjunctivitis.

Dr. Guttman, as noted in *Merck's Archives,* recommends the following:

℞.	Zinci sulphatis	gr. viii		50
	Hydrarg. chloridi corros.	gr. ss		03
	Aq. destillatæ	℥iss	48	

M. Sig.: Instill into the eye daily.

He states that in rebellious cases the lids should be touched once a day with crystallized alum; if this causes too much smarting, it may be preceded by the instillation of a few drops of a 2 per cent. solution of cocain. Should the case be very old the lids must be painted with a 2 per cent solution of zinc sulphate, followed by a good washing. In cases of marked hyperemia, eye douches are useful. The water should be at a temperature of 70 degrees F., and a little eau de Cologne added makes it more effective. The stream is directed on the closed lid two or three times daily for several minutes each time.

Chronic Articular Rheumatism.

℞.	Liq. potassii arsenitis	ʒi	4
	Potassii iodid	ʒiv	16
	Sodii salicylatis	ʒv	20
	Syrupi sarsap. compos.	℥iss	48
	Aq. menthæ pip. q. s. ad	℥iv	128

M. Sig.: One teaspoonful in half glass of water after each meal; or:

℞.	Potassii iodidi	ʒii	8
	Vini colchici sem.		
	Tinct. opii camph. āā	℥i	32
	Tinct. stramonii	ʒiii	12
	Tinct. cimicifugæ q. s. ad	℥iv	128

M. Sig.: One teaspoonful three times a day in water.

The Uses of Formalin.

A. C. Jordan, of London, states that the use of formalin has been abandoned to some extent on account of its irritating properties and the pain it may produce. He has found that this may be overcome to a great extent by using glycerin as a vehicle instead of water. He has used, with success, glycerin in strength of from 1 to 4 per cent. for the following conditions: 1, as an application to the throat; 2, as a mouth wash; 3, as an application to the skin; 4, as a urethral injection.

As an application to the throat in follicular tonsillitis he applies it locally with a brush, and finds that the glycerin *spreads rapidly over the* tonsil and into the crypts. He uses it in 2 per cent. to 4 per cent. strength as a specific in early stages of tonsillitis. The application may be attended by a little soreness lasting a few hours. In pharyngeal diphtheria he has met with good results by these applications. For the mouth a single application of a 2 per cent. solution followed by a good mouth wash is successful in stomatitis. In parasitic diseases of the skin as in tinea tonsurans (ringworm) he thoroughly cleanses the skin and carefully rubs in a 4 per cent. solution. One application is sufficient, followed by the application of zinc ointment.

Furunculosis.

George T. Jackson, in *Med. News*, gives following treatment for boils: *Attend to the general health,* look for diabetes or other constitutional diseases, and give tonics. Among the remedies the following are recommended:

℞.	Calcii sulphidi	gr. 1/10	006
	Sacch. lactis q. s.		

M. Sig.: One such capsule every two hours; and:

℞.	Syrupi hypophos. comp	℥iii	96

Sig.: One to two teaspoonfuls three times a day.

Yeast is used a great deal in treatment of furunculosis. It can be used in doses of a wineglassful daily.

It is further stated that furuncles should never be poulticed nor squeezed. They are frequently aborted by injecting a drop or two of pure carbolic acid, applying an ointment of hydrarg. oxidum rubrum or painting with iodin. If the boil is mature thrust pure carbolic acid into its central opening with a sharp-pointed toothpick and dress with an antiseptic dressing of aristol or boric acid.

Ichthyol in Erythema Nodosum.

A. Brownlie, in *New York Lancet,* states he has had success from the use of ichthyol in treatment of erythema nodosum. prepared as follows:

℞.	Ichthyoli ammon.	ʒii	8
	Spts. vini rectif.		
	Aetheris, āā	ʒiii	12

M. Sig.: Paint upon the affected part.

He states that by this application relief from the burning pain was quickly relieved. He further states that the method of preparing the paint is important. The last two preparations should first be mixed together, and then add the ichthyol.

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℞.	Hydrastinæ hydrochlor.			
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	Aq. destil. q. s. ad	℥iv	128	

M. *Sig.: Inject three or four times a day; or:*

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Dr. L. Butte recommends that the entire field occupied be *thoroughly cleansed with the following antiseptic solution:*

℞.	Hydrarg. chloridi corros.	gr. v		30
	Tinct. benzoini	m. lxxv	5	
	Tinct. saponis	℥iss	48	
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Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Boston Medical and Surgical Journal, April 11.

1 Review of the Literature of the Therapeutic Use of the X-rays. Harvey P. Towle.

2 *Pathology of the Newborn as Illustrated in the Practice of the Writer. Frederic W. Taylor.

3 *Oblique Subtrochanteric Osteotomy, for the Lengthening of the Femur, and Correction of the Deformity of Flexion Resulting from Hip-Joint Disease. E. G. Abbott.

4 A Case of Chin Left Posterior. H. G. Swain.

New York Medical Journal, April 13.

5 *German Text-books Half a Century Ago; History and Reminiscences. A. Jacobi.

6 A Shielded Piston Syringe for Urethral and Vesical Irrigation. J. *Rilus Eastman.*

7 *Correction of the Deviations of the Nasal Septum, with Special References to the Use of the Author's Fenestrated Comminuting Forceps. John O. Roe.

8 Pathology of Intrauterine Death. (Continued.) Neil MacPhatter.

9 *The Preponderance of Male Stammerers Over Females. David Greene.

10 Management of Gonorrhea. Boleslaw Lapowski.

Philadelphia Medical Journal, April 13.

11 *Ligation of the Carotid Artery as an Operation Preliminary to Resection of the Superior Maxilla. Carl Schlatter.

12 *Thoughts on the Treatment of Diabetes Mellitus, being Part of a Clinical Lecture Delivered at the Philadelphia Hospital, March 13, 1901. James Tyson.

13 *Medical Relations of the Prevailing Forms of Food Adulteration. Henry Leffmann.

14 Ruptured Traumatic Aneurysm of the Femoral Artery Due to Gunshot Wound; with Report of a Case. Wallace Neff.

15 *Multiple Tumors of the Sciatic Nerve. *John B. Roberts.*

16 Venous Angioma of the Flexor Muscles of the Fingers. John B. Roberts.

17 Diabetes Mellitus as a Cellular Fault. Thomas C. Ely.

Medical News (N. Y.), April 13.

18 *Immediate and Remote Results in One Hundred Conservative Operations on the Ovaries and Tubes; with Brief Reports of Four Cases. W. L. Burrage.

19 *Tropacocain Hydrochlorate—A Substitute for Cocain Hydrochlorate in Spinal Anesthesia. Willy Meyer.

20 *Study of Cases Presenting Symptoms of Asthenopia and Anomalies of the Ocular Muscles in Which Ablation of the Middle Turbinal Was Effective Treatment. Heber Nelson Hoople.

21 *Acute Traumatic Malignancy. William B. Coley.

22 The Akouphone and its Limitations. J. A. Kenefick.

23 Perforating Gunshot Wound of the Chest with Fracture of Both Bones of the Left Leg and Lacerated Wound of the Right Thigh: Recovery. Victor Cox Pedersen.

Medical Record (N. Y.), April 13.

24 *Remarks on Enteroptosis. Max Einhorn.

25 Small Hospitals and their Administration. Louis N. Lanehart.

26 *X-Ray Photography. Eugene R. Corson.

27 Some Facts of Responsibility in Spirit and Drug Takers. T. D. Crothers.

28 An Unusual Case of Partial Recovery from Embolism of the Arteria Centralis Retinæ. Edgar S. Thompson.

Cincinnati Lancet-Clinic, April 13.

29 *Acute Lobar Pneumonia. Charles F. Hope.

30 *Tobacco* and Tobacco Amaurosis. A. N. Ellis.

St. Louis Medical Review, April 13.

31 *Gonococci in Gonorrheal Secretions. A. Ravogli.

32 Gonococcus Infection in an Infant; Metastatic Joint Abscesses. W. L. Johnson.

33 Review of MacNaughton-Jones' Practical Manual of Diseases of Women and Uterine Therapeutics for Students and Practitioners. Mary Dixon-Jones.

American Medicine (Philadelphia), April 13.

34 *The Medical Aspects of Carcinoma of the Breast, with a Note on the Spontaneous Disappearance of Secondary Growths. (Concluded.) Wm. Osler.

35 *Gastrojejunostomy in Gastriectasis. A. H. Cordier.

36 *The Mortality of Operations for Obstructive Jaundice. John B. Deaver. (Concluded.)

37 *Phelps Operation for Club-*foot*, with a Report of 1650 Operations. (Concluded.) A. M. Phelps.

38 An Obscure Case of Hysteria with Associated Right Mydriasis and Amblyopia and Left Myosis. H. A. Hare.

39 *Indications and Limitations of the Vaginal Operation in Pelvic Diseases in Woman. J. Riddle Goffe.

40 Deep Breathing as a Curative and Preventive Measure. John H. Pryor.

41 "The Most Useful Citizen": A Study of Human Dynamics. F. W. Langdon.

42 Dust as a Factor in Diseases of the Upper Respiratory Passages. W. Scheppegrell.

43 Duty of the Public to the Medical Profession. Andrew H. Smith.

Medical Age (Detroit, Mich.), March 25.

44 Diseases in Schools, and Medical Inspection. E. V. Silver.

45 *Municipal Prevention of Disease. *Heman Spalding.*

46 *Immunity as a Factor in Prevention of Disease. Adolph Gehrmann.

Medical Fortnightly (St. Louis), April 10.

47 Urine Semeiology. Dr. Charrin.

48 *Insanity of Puberty. Frank Parsons Norbury.

Pediatrics (N. Y.), April 1.

49 *The Value of Alcohol in the Acute Infectious Diseases of Children. Augustus E. Bieser.

50 *Acute Articular Rheumatism in Children. Frank C. Simpson.

New York State Journal of Medicine (N. Y.), April.

51 *Surgical Management of Umbilical Hernia with Large Ring. E. D. Ferguson.

52 *On the Analogy Between Nervous Conductibility and Electric Conductibility, and their Relation to the Functional Neuroses. A. D. Rockwell.

53 *Management of Normal Labor, Including the Use of Forceps. Austin Flint, Jr.

54 What Determines the Real Value of Medical Papers? Louis C. Agar.

Ophthalmic Record (Chicago), March.

55 A Contribution to the Study of Injuries to the Eye. A. Levy.

56 A Case of Subacute Retro-bulbar Optic Neuritis First in the Left Eye, Later in the Right Eye. Edward Swasey.

57 A Case of Inflammatory Glaucoma Presenting Unusual Features. S. D. Risley.

58 Jeweler's Loupe for Examining the Eye—Mirror Monocle. Geo. F. Keiper.

59 A Case of Left Homonymous Hemianopsia, Probably Hysterical. M. W. Zimmerman.

Bulletin of the Johns Hopkins Hospital (Baltimore), March.

60 The Genesis of Carcinoma of the Fallopian Tube in Hyperplastic Salpingitis, with Report of a Case and a Table of Twenty-one Reported Cases. E. R. LeCount.

61 Report upon a Case of Gonorrheal Endocarditis in a Patient Dying in the Puerperium; with Reference to Two Recent Suspected Cases. Norman MacLeod Harris.

62 *An Experimental Study Concerning the Relation Which the Prostate Gland Bears to the Fecundative Power of the Spermatic Fluid. George Walker.

63 Further Observations on Epinephrin. John J. Abel.

Physician and Surgeon (Detroit and Ann Arbor), February.

64 A Half Century's Progress in Medical Jurisprudence. Frank T. Lodge.

65 The Etiologic Factor. Charles G. Jennings.

SYMPOSIUM ON PNEUMONIA.

66 Symptomatology and Diagnosis. George E. McKean.

67 The Morbid Anatomy. Edmund A. Chapoton.

68 The Treatment. Ernest L. Shurly.

69 Full-Term Ectopic Pregnancy, with Reports of Two Cases. James G. Lynds.

70 Antiseptic and Antipyretic Treatment of Typhoid Fever. Fred Grover.

71 Goiter and its Treatment. H. Wellington Yates.

72 Relation of Municipal Laboratories to the Control of Tuberculosis. Augustus W. Crane.

73 The Detroit Academy of Medicine. Albert B. Lyon.

74 Some Views of Curettement of the Uterus from the Standpoint of a General Practitioner. Elmer D. Gardner.

Annals of Gynecology and Pediatry (Boston), April.

75 *Fibroid Tumors of the Uterus, Their Relation to Diseased Adnexa. Origin of Fibroid Tumors. When is the Proper Time for their Removal? Mary Dixon Jones.

76 *Facts and Suggestions Pertaining to Diphtheria. James H. Taylor.

77 *Suppurative Mastitis in the Newly-Born. Emery Marvel.

78 Etiology of Uterine Hemorrhage. George W. Kaan.

79 Treatment of Uterine Hemorrhage. Francis H. Davenport.

80 *A Case of Septic Rheumatism of Tonsillar Origin. Carolus M. Cobb.

81 *Two Cases of Jacksonian Epilepsy. John D. Target.

Medical Bulletin (Philadelphia), April.

82 Scabies—Tinea Versicolor—Impetigo Contagiosa. J. V. Shoemaker.

83 Caroid in Maldigestion of Infants. Arthur W. Condict.

84 A Case of Sneezing. Dr. Masse.
85 Hemorrhagic Affections of the Skin. George A. Hewitt.

Toledo Medical and Surgical Reporter, April.

86 Report of Surgical Cases (Excision of Elbow, etc.). W. H. Fisher.
87 Value of X-Ray to the General Practitioner. S. W. Beckwith.
88 Pathological Examination of the Eye. Frank Jacobi.

Fort Wayne Medical Journal-Magazine, March.

89 *The Role of the Kidney in the Production of the Toxemias of Pregnancy. B. Van Sweringen.

International Journal of Surgery (N. Y.), April.

90 Regional Minor Surgery. George G. Van Schaick.
91 Traumatic Gangrene. J. B. Murfree.
92 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
93 Practical Suggestions upon the Treatment of Rectal Diseases. (Continued.) James P. Tuttle.
94 Details in the Preparation of Patients for Operation Outside of Hospitals. Lewis W. Rose.
95 Complete Sloughing of Both Nipples. J. A. Wessinger.
96 Diabetes, Why it May Follow Head Injuries. A Successful Method of Treatment. John B. Hawes.
97 Local Anesthesia Without Risk of Danger. E. R. Rasely.
98 A New Operation for Anal Fistula. R. D. Fairex.
99 Acute Tetanus. W. R. Cummings.

Oklahoma Medical Journal (Guthrie), March.

100 Epileptic Convulsions. H. M. Fagaines.
101 Neurasthenia. A. DeBord Young.

American Gynecological and Obstetrical Journal (N. Y.), March.

102 *Pus in the Peritoneal Cavity. Robert T. Morris.
103 *The Complications of Gonorrhea in Women and their Prophylactic Treatment. Joseph Taber Johnson.
104 *Organotherapy in Gynecology. Wilmer Krusen.
105 Pregnancy in Uterus Bicornis. George H. Noble.
106 *Operative Treatment of Cancer of the Uterus. E. E. Montgomery.
107 Anne Murray, the First Trained Nurse. Ely Van De Warker.

Columbus Medical Journal, March.

108 Points in Cellular Pathology. D. N. Kinsman.
109 Bronchitis and Broncho-pneumonia; Pathological Anatomy. D. N. Kinsman.
110 Bronchitis and Broncho-pneumonia. Diagnosis and Symptomatology. John L. Gordon, Jr..
111 Bronchitis and Broncho-pneumonia. Treatment. M. T. Dixon.
112 Bronchitis and Broncho-pneumonia. Treatment in Children. J. C. Lawrence.
113 Bronchitis and Broncho-pneumonia Complicating Surgical Operations. F. F. Lawrence.
114 Report of a Case of Ischio-scrotal Eczema Madidans Rubrum. N. E. Aronstam.
115 Heredity. L. Woodruff.

Laryngoscope (St. Louis), March.

116 *Papilloma of the Larynx. Francis J. Quinlan.
117 *On Nasal Suppuration. Z. L. Leonard.
118 Case of Congenital Web in Larynx. Albert B. McKee.
119 *Observations on the Pathology of the Pharyngeal Tonsil and its Operative Removal. H. Gradle.
120 Resorcin as a Preservative for Suprarenal Extract Solution. Seymour Oppenheimer.

Medical Standard (Chicago), April.

121 Drug Habits and their Treatment. T. D. Crothers.
122 A Surgical Ear and Nose Clinic. Wm. L. Ballenger.
123 The Etiology of Appendicitis. A. J. Ochsner.
124 Administration of Anesthetics. A. A. Kerr.
125 Typhoid Fever; its Complications and Sequelæ. J. T. Moore.
126 Tinea Versicolor. N. E. Aronstam.
127 Typhoid Fever, Complicated by Suppurating Ovarian Dermoid Cyst. E. J. Kemp.

Kansas City Medical Index-Lancet, April.

128 Gunshot Wounds of the Chest, with Report of a Case. J. Herbert Austin.
129 Cerebrospinal Meningitis. John Punton.
130 Fibroma Molluscum. Wilmot C. Willets.

Hot Springs Medical Journal, March.

131 Autointoxication from Renal Insufficiency With and Without Diseased Kidneys: with Report of Some Remarkable Cases. James T. Jelks.

Medical Times (N. Y.), April.

132 Treatment of Urethritis in the Male. James Pedersen.
133 Five Years' Experience with the Antiseptic Treatment of Typhoid Fever. J. A. Crook.
134 Nasal Diseases and their Differential Diagnosis. David H. Stevenson.
135 Case of Choledochotomy of Impacted Stones. Howard Lilienthal.

Atlanta Journal-Record of Medicine, April.

136 Extrauterine Pregnancy, with Report of a Case of Simultaneous Pregnancy in Both Tubes. C. R. Robins.
137 Saline Transfusion, Hemorrhage and Shock. J. L. Campbell.

AMERICAN.

2. **Pathology of New-Born.**—Taylor makes a general statement of the pathologic conditions observed in an experience of 654 births, there were 23 still-births, 22 cases in which death occurred shortly after birth, and 10 where respiration was delayed. Besides these there were two cases of deformity, 3 of ophthalmia, 2 of melena, 2 of fractured clavicle—1 also included under melena—1 of depressed skull and 1 of facial paralysis, making a total of 64 or about 10 per cent. abnormalities at birth or during the first few weeks of life. The details are given at length. Of the children born alive, who died, 8 showed no cause of death except a lack of vitality, 6 were premature, and in 1 case the cause of death was difficult to explain, excepting the suggestion that it was smothered accidentally three days after birth.

3. **Oblique Subtrochanteric Osteotomy.**—The author thinks his method has an advantage in obviating the use of such powerful force and the destruction of so much soft tissue as is done in the method employed by German surgeons, Hoffa, Lauenstein and others, which they consider is an advantage over Gant's operation. In the patient whose case is reported the site of the operation was prepared in the usual manner and the patient placed on the side with large sand bags between the thighs, against the perineum. The osteotome, which was of the same width as the bone, was entered through the skin and underlying tissue upon the femur, about 4 in. below the upper border of the trochanter major, where it was firmly held at an angle of 30 degrees. It was then driven in the bone as far as the inner compact tissue, when it was exchanged for a narrower one and the division continued well into this, then withdrawn and the section completed by fracture. The leg was placed in the corrected position and dressed. After the patient was put back in bed a Buck's extension was applied with side plasters reaching to the fracture. A side splint from the axilla to the foot was loosely bandaged to the body, and weights applied on the end of the extension and gradually increased. The muscles relaxed in thirty-six hours, when the length and position were regulated and the splint firmly applied, retaining the leg in the corrected position. Measurements were frequently made to ascertain the condition, and at the end of the eighth week the apparatus was removed and the patient allowed to move around in bed. At the beginning of the tenth week crutches were given and free exercises permitted. The femur was lengthened 1.5 inches by actual masurement and the flexion was completely corrected as the adhesions were broken up by the operation, allowing movements of 15 degrees. Recovery was uninterrupted, union being firm in eighth week. The patient now walks easily with the heel of the shoe raised three-quarters of an inch on the inside. The points which Abbott considers of special importance are the making of a radiograph to determine the size of the femur, the exact location of the osteotome, the width of the osteotome and the angle at which it has been held, both to be governed by the size of the femur. The amount of weight required with different patients varies and must be gradually increased until results are obtained, when it may be lessened and held by side splints.

5. **German Text-Books.**—Jacobi's article is an interesting series of reminiscences of German teachers and German medical instructions fifty or sixty years back.

7. **Septal Deviations.**—The conditions of septal deviations are described as to their frequency, and the author's method given, with a description of his instruments, consisting of forceps with one blade fenestrated, the other fitting in the opening, by which a portion of the septum is crushed and thereby straightened. Roe claims that it gives a special facility for fracturing the osseous and osseocartilaginous portions without incising or even lacerating the soft parts, and that wrinkles and curves can be readily removed without other operative measures excepting the removal of spurs and ridges.

Dislocation of cartilage or bones can be reduced, and it avoids producing strain on the other portions of the septum than those immediately operated on, thus avoiding the danger of disturbing its upper attachments, and by complete removal of the elasticity of the attachments of deflected parts, it facilitates more ready adjustment of the septum to its normal position and diminishes the length of time that the support is required.

9. **Stammering.**—Greene shows the predominance of males over females with this infirmity and believes that the cause of this diversity is largely in faulty inspiration. The tendency to misdirected effort in the diaphragm is the most prolific cause of stammering among men, but is rarely found among women. In males quiet respiration is effected almost exclusively by the activity of the diaphragm, but in speaking some considerable emptying of the air in the lungs must take place, and this can only be affected by combined diaphragmatic and costal breathing. In females he says costal breathing is the habitual mode of respiration, hence, their lungs are generally well supplied with the amount of air necessary. The number of cases in his table in which stammering was caused by mismanagement of the voice in males was 82 or 35.8 per cent., while in the females it was 24 or 88 per cent. of the total number of cases. Instead of setting the vocal cords into vibratory motion by means of the expiratory current, the stammerer of this class makes a futile attempt to produce these vibrations by the muscles of the larynx, and every time the attempt is made to pronounce a word beginning with a vowel or vocal consonant, a noise is produced much like the bleating of a sheep. It is natural that this tendency to throw too much energy into the muscles of the larynx as a substitute for expiratory force should be more common among females than among males. The average respiratory force of the female is considerably lower than that of the male. As regards the treatment, he thinks the cases due to faulty inspiration are much more hopeful. The patient can be taught to educate his breathing and control his costal muscles by gymnastics. The organ of voice, however, is not so easily brought into control. Hence the stammering of females showing itself in spasms of the vocal cords usually proves very obstinate.

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13. **Food Adulteration.**—Several criticisms are made by Leffmann, of the common statements in regard to food adulteration, especially some that have been recently given out in a prominent newspaper. He thinks that Congress would never have taken the trouble to look after some of these adulterations if it had not been necessitated for war tax purposes. Among the criticisms he makes are those on the statement that glucose is a harmless food. He asks what we know about the commercial glucose. There is certainly 15 per cent. of unfermentable material which is very little understood either chemically or physiologically. The recent experience of England with invert-sugar in the manufacture of beer is noted as illustrating the point and showing that glucose is not necessarily a wholesome product. Butter substitutes are also mentioned, and he thinks that the benefit derived from these do not reach the poor man as he gets oleomargarin at about the same prices as the pure article. In regard to baking-powders, he says there is no satisfactory proof brought forward to show why alum is any more injurious than cream of tartar. The probability is that both are injurious. The legislation in regard to butter coloring has also its surprising features. Experiments have been made to show that colorings are injurious, but the tests are of no special value. To give a person in one dose as much coloring matter as would be sufficient to color all the butter he eats in six months is about as scientific as would be the same experiment with tea, coffee or pepper. It is worth noting, he also remarks, that farmers' influence in many states has managed to secure the prohibition of coloring oleomargarin while not interfering with butter coloring.

15.—See abstract in THE JOURNAL of March 23, p. 835.

18. **Conservative Operations on the Ovaries and Tubes.**—Burrage's experience covers 156 cases, 100 of which have been under observation for at least one year after operation: 3 patients died from the operation, which were accountable for by special conditions. The greatest interest is in the late results of the preservation of ovaries and tubal tissue. In a few instances, while he has left the ovary or part of an ovary in cases of hysterectomy, the symptoms of an artificially induced menopause seem to be lessened. In about 73 per cent. of his cases there was symptomatic cure. The anatomical cure, that is ovaries and tubes normal and well placed, was noted in 44 out of 69 cases, or 64 per cent. Some enlargement or prolapse of ovaries was found in the remaining 25 cases. Pregnancy followed operation in 19 cases, in none, however, after resection of a closed tube, the tubes being closed at the time of operation. As bearing on the question of resected ovary becoming diseased at some future time, he refers to a former article in which out of 85 cases in only one was another operation necessary. Four cases are reported. In one pregnancy occurred twice after removal of both tubes and one ovary for tubal mole, chronic salpingitis, and cyst of the ovary. We have to assume in this case that an opening became established on one side or the other between the catgut stitches so that the uterine cavity was connected with the peritoneal cavity, where the remaining ovary was located, and without intervention of the tubes.

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℞.	Tropacocain hydrochlorate	gr. ¼		015
	Sodium chlorid	gr. i		06
	Distilled water	grs. clx	10	

Each ten minims of this solution contains 1 centigram (1/6 gr. of the salt); fifty minims, therefore, contain 0.05, the generally required dose. He is so satisfied with the results that he shall continue to use spinal anesthesia in urinary surgery and in fact wherever the indication is present.

20. **Asthenopia from Nasal Disease.**—Hoople reports cases of ablation of the middle turbinal for ocular anomalies, asthenopia and muscle defects, and he thinks a larger proportion of such cases are due to nasal disturbances than has generally been supposed.

21. **Acute Traumatic Malignancy.**—In an earlier article Coley had called attention to the fact that in many cases with sarcoma there was a history of antecedent injury, and had endeavored to show the important etiologic relationship between it and the disease. Further study has confirmed his decision and he deduces the following main conclusions: 1. Trauma is a very important factor in the causation of malignant tumors. 2. This relationship between injury and malignant tumors furnishes additional and by no means unimportant evidence in support of the infectious origin of such tumors. The paper reports a number of cases.

24. **Enteroptosis.**—After defining the disease, Einhorn discusses its etiology. The corset and the weakened condition of the abdominal wall appear to be the most important primary factors. Although in many cases this last condition is congenital, there are some in which this is not the case; enteroptosis may develop, for instance, after sudden or great loss of flesh and after abrupt changes in the volume of the abdominal cavity. Movable kidney is usually present and may be taken as an index of the occurrence of the condition. Einhorn corroborates Glenard's statements as to the frequency of enteroptosis. Of 1912 cases of gastric diseases during the year 1900, 347 were of abdominal ptosis, 70 in men, 277 in women; 240 of these were cases of enteroptosis, 20 in men, and 220 in women, and 212 of the 240 were accompanied by movable kidney. The symptoms are reviewed and discussed. He considers the splashing sound the easiest and best method of determining gastric ptosis; owing to the area over which it can be produced, it will indicate the position of the organ. He mentions, among other things, Glenard's belt test: The physician, standing behind the patient, encircles the lower part of the abdomen of the latter with both of his hands, supporting and partially lifting it. If this gives relief it speaks in favor of the presence of enteroptosis. Treatment in most cases consists in the employment of a well fitting abdominal support, together with ample nutrition and exercise. Massage is of value only in mild cases or in very anemic patients, not in the advanced stage of the condition. Intragastric application of electricity is useful in functional disturbances of the stomach. Among the drugs, iron and arsenic are often indicated in anemic conditions, while the bromids may be given to allay great nervousness. The digestive disturbances and constipation must be looked after.

26. **X-Ray Photography.**—Corson gives his experience with this method. He finds that a spark alone is no index of *x*-ray efficiency. In the coil manufacture, after a certain length of spark has been obtained every effort should be toward increasing the amperage to the limits of the tubes; a ten or twelve inch spark is quite enough if a fat or multiplied one. He does not have much faith in the static machine, because it gives a thin spark, all tension, no quantity. The effects are very much inferior to those of a good coil. A change from a coil giving a thin ten-inch spark to a coil giving a very fat and multiplied spark of ten inches produces startling differences in photographic results, giving a negative of brilliant and fine detail. The difference is the amount of current going through the tube. The time of exposure and developing were both shortened. In his work he has endeavored to bring out the bones on a white background, taking out the flesh and superficial details. If there is anything to be left to the imagination let it be the superficial and not the bony parts; it is the bones we are after. He secures absolute immobility by binding the part firmly to the plate and by placing a heavy weight on the limb to prevent any movement even from the arterial pulsation. This can be done in a way as comfortable as possible to the patient. The article contains also details as to exposure, developers, etc.

29. **Pneumonia.**—The various methods of the treatment of pneumonia in the past, the etiology, symptoms, and prognosis are discussed by Hope, who points out its increasing fatality in recent times. He advises the use of guaiacol carbonate and creosotal free, and as an auxiliary or substitute treatment, large doses of sodium salicylate and large doses of strychnia especially where exhaustion of cardiac weakness exists. Alcoholic stimulants are often of the greatest importance and in the pneumonia of drunkards, a *sine qua non.* Give as little medicine as will meet the indications so as to avoid gastric trouble. Hot applications are usually better than cold, but wet or dry heat, hot-water packs, sinapisms, or turpentine stupes are all available measures. In some cases tincture of iodin painting of the chest may be done and dry cupping relieves the obstinate pleuritic pains. The nourishment should be bland, digestible and mainly fluid. The patient should be kept at rest in bed until there is resolution of the stomach. Perfect ventilation is necessary. Convalescence should be carefully guarded and tonic medication given as needed.

31. **Gonococcus.**—Ravogli describes the gonococcus as it is found in pathologic conditions. He thinks that marriage should never be permitted or advised while the gonococcus is present, nor even after it has disappeared, unless we are fully satisfied that there are no more pus corpuscles in the secretion and in the shreds.

34. **Carcinoma of the Breast.**—Osler describes and discusses causes of mammary carcinoma according to the associated manifestations, cerebrospinal, thoracic and abdominal. Fourteen cases altogether are reported. He points out the importance of looking for carcinoma in cases of painful paraplegia and nerve-root pains. In two of the cases reported, with cerebrospinal symptoms, spontaneous disappearance or improvement of symptoms, and in one of them, of growths took place. Reference is made to other similar cases in the literature.

35. **Gastrojejunostomy in Gastrectasis.**—Two cases are reported by Cordier, who offers the following conclusions: 1. Carcinoma of the pylorus, even though removed, returns quickly and always kills. Pylorectomy is attended by a high mortality and is not justified in advanced cases. Gastrectasis due to malignant closure of the pylorus is best treated by a gastrojejunostomy. Wolfler's or Von Hacker's methods meet indications best. 2. It is not necessary to twist the bowel in making the anastomosis, to prevent bile entering the stomach. 3. The anastomotic opening in the stomach should be at the most dependent point. The mortality of the operation is low. In all cases with marked gastric dilatation, with pain, emaciation and invalidity, gastrojejunostomy is indicated. The relief of pain due to efforts of the stomach to empty itself is immediate. The patient gains in weight and if the disease is non malignant he is restored to health. Tabulated statements of results of American and European operators are given.

36.—See abstract in The Journal of March 23, p. 836.

37. **Club-Foot.**—The conclusions of Phelps' very fully illustrated article are, in substance: All feet with shortened skin and ligaments, at any age after the fourth month, should be operated on; very prolonged medical treatment for months or years in any case is wrong. While he admits that many cases can be benefited or cured, the best and easiest way is to operate. The operation is not complete until the foot is placed in the supercorrected position flexed upon the leg and the heel prominent so that it strikes the ground, in walking, before the anterior segment of the foot. Then it takes the weight of the body so as to turn itself still further outward and thus prevent relapsing. Club-foot shoes he discards. By manipulation the foot is carried to the proper position and flexed there by plasters or plaster cast. The treatment just begins after the

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Each ten minims of this solution contains 1 centigram (1/6 gr. of the salt); fifty minims, therefore, contain 0.05, the generally required dose. He is so satisfied with the results that he shall continue to use spinal anesthesia in urinary surgery and in fact wherever the indication is present.

20. **Asthenopia from Nasal Disease.**—Hoople reports cases of ablation of the middle turbinal for ocular anomalies, asthenopia and muscle defects, and he thinks a larger proportion of such cases are due to nasal disturbances than has generally been supposed.

21. **Acute Traumatic Malignancy.**—In an earlier article Coley had called attention to the fact that in many cases with sarcoma there was a history of antecedent injury, and had endeavored to show the important etiologic relationship between it and the disease. Further study has confirmed his decision and he deduces the following main conclusions: 1. Trauma is a very important factor in the causation of malignant tumors. 2. This relationship between injury and malignant tumors furnishes additional and by no means unimportant evidence in support of the infectious origin of such tumors. The paper reports a number of cases.

24. **Enteroptosis.**—After defining the disease, Einhorn discusses its etiology. The corset and the weakened condition of the abdominal wall appear to be the most important primary factors. Although in many cases this last condition is congenital, there are some in which this is not the case; enteroptosis may develop, for instance, after sudden or great loss of flesh and after abrupt changes in the volume of the abdominal cavity. Movable kidney is usually present and may be taken as an index of the occurrence of the condition. Einhorn corroborates Glenard's statements as to the frequency of enteroptosis. Of 1912 cases of gastric diseases during the year 1900, 347 were of abdominal ptosis, 70 in men, 277 in women; 240 of these were cases of enteroptosis, 20 in men, and 220 in women, and 212 of the 240 were accompanied by movable kidney. The symptoms are reviewed and discussed. He considers the splashing sound the easiest and best method of determining gastric ptosis; owing to the area over which it can be produced, it will indicate the position of the organ. He mentions, among other things, Glenard's belt test: The physician, standing behind the patient, encircles the lower part of the abdomen of the latter with both of his hands, supporting and partially lifting it. If this gives relief it speaks in favor of the presence of enteroptosis. Treatment in most cases consists in the employment of a well fitting abdominal support, together with ample nutrition and exercise. Massage is of value only in mild cases or in very anemic patients, not in the advanced stage of the condition. Intragastric application of electricity is useful in functional disturbances of the stomach. Among the drugs, iron and arsenic are often indicated in anemic conditions, while the bromids may be given to allay great nervousness. The digestive disturbances and constipation must be looked after.

26. **X-Ray Photography.**—Corson gives his experience with this method. He finds that a spark alone is no index of *x*-ray efficiency. In the coil manufacture, after a certain length of spark has been obtained every effort should be toward increasing the amperage to the limits of the tubes; a ten or twelve inch spark is quite enough if a fat or multiplied one. He does not have much faith in the static machine, because it gives a thin spark, all tension, no quantity. The effects are very much inferior to those of a good coil. A change from a coil giving a thin ten-inch spark to a coil giving a very fat and multiplied spark of ten inches produces startling differences in photographic results, giving a negative of brilliant and fine detail. The difference is the amount of current going through the tube. The time of exposure and developing were both shortened. In his work he has endeavored to bring out the bones on a white background, taking out the flesh and superficial details. If there is anything to be left to the imagination let it be the superficial and not the bony parts; it is the bones we are after. He secures absolute immobility by binding the part firmly to the plate and by placing a heavy weight on the limb to prevent any movement even from the arterial pulsation. This can be done in a way as comfortable as possible to the patient. The article contains also details as to exposure, developers, etc.

29. **Pneumonia.**—The various methods of the treatment of pneumonia in the past, the etiology, symptoms, and prognosis are discussed by Hope, who points out its increasing fatality in recent times. He advises the use of guaiacol carbonate and creosotal free, and as an auxiliary or substitute treatment, large doses of sodium salicylate and large doses of strychnia especially where exhaustion of cardiac weakness exists. Alcoholic stimulants are often of the greatest importance and in the pneumonia of drunkards, a *sine qua non.* Give as little medicine as will meet the indications so as to avoid gastric trouble. Hot applications are usually better than cold, but wet or dry heat, hot-water packs, sinapisms, or turpentine stupes are all available measures. In some cases tincture of iodin painting of the chest may be done and dry cupping relieves the obstinate pleuritic pains. The nourishment should be bland, digestible and mainly fluid. The patient should be kept at rest in bed until there is resolution of the stomach. Perfect ventilation is necessary. Convalescence should be carefully guarded and tonic medication given as needed.

31. **Gonococcus.**—Ravogli describes the gonococcus as it is found in pathologic conditions. He thinks that marriage should never be permitted or advised while the gonococcus is present, nor even after it has disappeared, unless we are fully satisfied that there are no more pus corpuscles in the secretion and in the shreds.

34. **Carcinoma of the Breast.**—Osler describes and discusses causes of mammary carcinoma according to the associated manifestations, cerebrospinal, thoracic and abdominal. Fourteen cases altogether are reported. He points out the importance of looking for carcinoma in cases of painful paraplegia and nerve-root pains. In two of the cases reported, with cerebrospinal symptoms, spontaneous disappearance or improvement of symptoms, and in one of them, of growths took place. Reference is made to other similar cases in the literature.

35. **Gastrojejunostomy in Gastrectasis.**—Two cases are reported by Cordier, who offers the following conclusions: 1. Carcinoma of the pylorus, even though removed, returns quickly and always kills. Pylorectomy is attended by a high mortality and is not justified in advanced cases. Gastrectasis due to malignant closure of the pylorus is best treated by a gastrojejunostomy. Wolfler's or Von Hacker's methods meet indications best. 2. It is not necessary to twist the bowel in making the anastomosis, to prevent bile entering the stomach. 3. The anastomotic opening in the stomach should be at the most dependent point. The mortality of the operation is low. In all cases with marked gastric dilatation, with pain, emaciation and invalidity, gastrojejunostomy is indicated. The relief of pain due to efforts of the stomach to empty itself is immediate. The patient gains in weight and if the disease is non malignant he is restored to health. Tabulated statements of results of American and European operators are given.

36.—See abstract in The Journal of March 23, p. 836.

37. **Club-Foot.**—The conclusions of Phelps' very fully illustrated article are, in substance: All feet with shortened skin and ligaments, at any age after the fourth month, should be operated on; very prolonged medical treatment for months or years in any case is wrong. While he admits that many cases can be benefited or cured, the best and easiest way is to operate. The operation is not complete until the foot is placed in the supercorrected position flexed upon the leg and the heel prominent so that it strikes the ground, in walking, before the anterior segment of the foot. Then it takes the weight of the body so as to turn itself still further outward and thus prevent relapsing. Club-foot shoes he discards. By manipulation the foot is carried to the proper position and flexed there by plasters or plaster cast. The treatment just begins after the

operation is complete. Osteoclasis should be performed in all cases of inward twist of the tibia, or a relapse may be looked for. Bone operations should never be performed primarily. Open incision should supplement all cases of subcutaneous tenotomy when it fails to correct. Short tendons should be cut, not stretched, for prolonged stretching deforms the entire tarsus. Cure occurs only when the heel strikes first in walking and when new facets are formed on tarsal bones. Pirogoff's operation was required in one-fourth of 1 per cent. of his cases. Open incision should never be made unless the skin resists and will not stretch enough to allow supercorrection and proper unfolding of the foot. The weight of the body falling upon any club-foot shoe or brace nullifies the action of the apparatus. For this reason Adams treated one foot at a time with his apparatus, using crutches till the foot was cured.

39. **The Vaginal Operation.**—Goffe considers the vaginal operation preferable in uterine cancer, in fibroids not so large as to simulate the fourth or fifth month of pregnancy and in salpingitis and ovarian abscess. He uses the angiotribe exclusively in these cases. It is, he thinks, the ideal route in operating for uterine displacements by opening through the anterior fornix, breaking up adhesions, delivering first the uterus and then the appendages into the vagina, performing such conservative work as is required to preserve the function of the ovaries or ovary, and finally curing the displacement by shortening the round ligaments. He has treated some seventy cases this way and pronounces it the ideal operation, doing all the good that the Alexander operation or abdominal suspension can do, and free from their objections.

45.—See abstract in The Journal of March 16, p. 757.

46.—Ibid.

48. **Pubescent Insanity.**—The points made by Norbury are that hereditary taint in these cases should always be looked for and should include a search for not merely insanity but any other nervous disease or neurotic condition. He calls attention to the special problems which occur during the developmental period in youth, and remarks that in the average cases of insanity of puberty nutrition is at fault and the strain on the system increases in consequence. In most of these cases there is anemia. A study of the blood, estimation of hemoglobinuria and counting of red cells is important, and the nutrition can not be too carefully watched. The diet should be such as is given in neurasthenic cases, and the bowels carefully regulated to prevent autointoxication. Tonics are of more value than sedatives.

49. **Alcohol.**—Bieser thinks that in certain conditions alcohol in called for, as in diseases of children with persistence of high temperature, rapid irregular dicrotic pulse, and marked prostration. He thinks there is hardly any single drug which so well meets the demands of nutrition where tissue makers must be excluded from the dietary. As a saver of nitrogenous waste its effects are of the most benefit. It also reduces fever and keeps the vital function of animal heat production at its proper place, thus aiding Nature, especially the infectious diseases where it is due to diminished elimination of heat rather than to increased production. It also correlates energy by keeping the pulse and respiration ratio normal and assisting the vital functions. In diphtheria, especially in septic nasopharyngeal cases, he thinks it is especially valuable in conjunction with iron and mercury, sepsis and bronchial pneumonia being the diseases which more than any others give evidence of symptoms which demand not merely an alcoholic stimulant but an alcoholic support.

50. **Rheumatism in Children.**—Rheumatism, according to Simpson, is an infectious disease. He has never seen a case in children that did not begin with an attack of indigestion. Heredity, he finds, is one of the most certain predisposing causes. In children the salicylates have to be used sparingly on account of the depression they produce. He is a great believer in the alkaline treatment following the use of the salicylates. It assists in controlling pain and fever, and never affects the stomach. Rest in bed is the only safeguard against endocarditis. When this has occurred he thinks opium useful in small doses. For the extreme emaciation often present he thinks peptomangan one of the best tonics and advises being in the open air as much as possible.

51.—See abstract in The Journal, XXXV, p. 1171.

52.—Ibid., p. 1104.

53.—Ibid.

62. **Prostatic Secretions.**—Walker has experimented to find the relation which the prostatic gland secretion bears to the fecundative power of the spermatic fluid. He operated on rats, in which the gland can be easily removed without causing other damage, in several series, in some of which the anterior lobes alone were excised and effects noted, and in others the whole glands. In the first series of seven pairs the anterior lobes were excised, 2 bred normally, 2 had small litters, and 2 were negative. In the second series of 15 pairs, where the anterior lobes were removed, 9 bred normally, 5 proved negative, and 1 escaped. In the third series of 3 pairs, after removal of the anterior lobes, 4 out of five bred normally and 1 was negative; after the second operation, where complete removal was done, 1 bred normally, and 4 were negative. In the fourth series, with complete removal of the glands, 8 out of 11 pairs were negative and 3 had small litters. In the fifth series, in which the prostatic gland was removed in early life, it did not have any subsequent effect on the development of the testes. From experiments he deduces the following conclusions: 1. That a removal of the anterior lobes of the prostate gland in rats has no effect on breeding; but in a certain number it diminshes the fecundating power; and in a few it is destroyed entirely. 2. Complete excision has a very marked effect on fecundity, reducing it to almost nil when the gland is entirely removed. 3. Partial or complete removal of the prostate has no effect upon sexual desire and capacity. 4. Complete removal of the gland in the adult animal has no effect on the histological structure of the testicles. Complete removal of the prostate in the young animal has no effect upon the subsequent development of the testes.

75. **Uterine Fibroids.**—Jones advises early removal of fibroids and insists on their pathologic importance, even when small. Early operations are in most cases desirable; delay only increases the trouble and suffering.

76. **Diphtheria.**—Taylor insists on giving the benefit of the doubt to diphtheria where it can possibly be suspected, and the necessity of bacteriologic examination in every case. In dubious cases he always isolates for the protection of others, and only when the membrane brushes off and other and bacteriologic symptoms of diphtheria are absent does he diagnose follicular tonsillitis. A thin, serous, acrid nasal discharge which excoriates the lips, and frequent epistaxis accompanying constitutional symptoms indicate diphtheria, usually of a grave nature. He admits the existence of non-diphtheritic membranous laryngitis which may at times render the diagnosis difficult, but in any case give the benefit of the doubt in all cases of inflammation with pseudo-membrane in the larynx to diphtheria. The severity of post-diphtheritic paralysis appears to be altogether out of relation to the original condition. The paper concludes with elaborate instructions for antiseptic methods of treatment, etc.

77.—See abstract in The Journal of March 3, p. 593.

80. **Tonsillar Rheumatism.**—The close relation between certain forms of tonsillitis and acute rheumatism is well recognized, and Cobb considers it due to migration to the joints, synovial cavities, and endocardium by micro-organisms from the tonsils. He reports a case in which there was a latent or concealed tonsillar abscess which he thinks is not an at all rare condition, and often it assumes the form of a mild general sepsis or enlarged cervical glands.

81.—See abstract in The Journal of March 2, p. 592.

89. **The Toxemias of Pregnancy.**—The case reported, in the author's opinion shows that these toxemias may occur without diminution either in the amount of urine or urea, and that the ordinary examinaton of the urine, except for the presence of albumin which indicates of itself nothing imme-

diate or serious, does not disclose in all cases the existence or approach of a very serious malady which may terminate life.

102. **Pus in the Peritoneal Cavity.**—The method of treating suppurative diseases in the abdomen is discussed by Morris, who remarks on gauze packing, which he thinks poisons the patient, and the closing up of the incision. He says that after long-continued operations with large incision, free handling of the bowel and large drainage apparatus, patients are commonly very much depressed and some depression exists for several days. When the abdomen is closed completely he finds altogether another condition. The peritoneum takes care of all but the large collections of pus, and he has confined himself to disposing of these, leaving the rest for the so-called phagocytes, and closing the incision completely in most cases. In a small proportion of cases drainage may be necessary, but in most it is employed because the surgeon assumes a responsibility that really belongs to the leukocytes and for which they are well equipped, if the surgeon does not interfere.

103. **Gonorrhea in Women.**—The importance of gonorrhea as a cause of female disease forms the principal motive of Johnson's article.

104. **Organotherapy in Gynecology.**—The different organic extracts that have been employed in gynecology are reviewed by Krusen who summarizes the literature of the subject. He says, notwithstanding many brilliant results referred to, experience leads him to the following conclusions as regards the ovarian extract: 1. The employment of ovarian extract is practically harmless, as no untoward effects beyond slight nausea have been noted even when full doses have been administered. 2. In the treatment of amenorrhea and dysmenorrhea no good results were secured. (Although in some cases of amenorrhea of obesity, remarkable results have been obtained by the use of the thyroid extract.) 3. The best results were seen in the second class of cases, for the relief of symptoms of artificial menopause, when in a few instances the congestive and nervous symptoms were apparently ameliorated. 4. No appreciable result was noticed in the use of ovarin in the natural menopause. 5. No definite or exact reliance can be placed on the drug, as it often proves absolutely valueless where most positively indicated. 6. It is extremely problematic whether, in those cases in which relief was noted, the effect was not due to mental suggestion rather than to any physiologic action of the drug. The neurotic individual demanding this treatment will often be relieved by any simple remedy. 7. In those instances in which effects were noted, increase in dosage seemed to have little influence in maintaining the effect or preventing th patient from becoming accustomed to its use. 8. In conclusion, the theory which suggests the use of this extract seems to be at fault, and the administration of ovarin, or ovarian extract, is based upon a wrong assumption as to the function of the ovary. In organotherapy, the best results have been obtained from the use of the thyroid and adrenal glands, and the ovary in function is in no sense analogous to these organs. Its principal function is ovulation, and if any peculiar product is coincidently manufactured the isolation of this product has not yet been accomplished.

106. **Uterine Carcinoma.**—The radical treatment of carcinoma is here alone considered. Montgomery discusses the methods of hysterectomy and calls attention to the following special points: 1. An operation to afford hope of escape from relapse should be early. 2. The vaginal operation should have the preference wherever the conditions will permit of its performance. 3. Every precaution should be exercised to operate in healthy tissue and avoid the possibillity of reimplantation. 4. The prognosis is much less favorable in women under 35, quite favorable in women over 50, if an operation is done early.

116. **Laryngeal Papillomata.**—The frequency of symptoms, classification, etc., of laryngeal papilloma are discussed in detail. It seems to be more frequent in males, and one of the most important factors in its causation is the so called warty diathesis. Vocal strain has been considered a cause and syphilis is mentioned, also scrofula, tuberculosis, etc. The method of examination is given. The symptoms largely depend on the site occupied. The prognosis is usually good, although the point of attachment must be regarded. Every laryngeal growth should be removed if possible by the natural route. Some conservatism is still somewhat advocated and inhalation of formalin, alcohol and so on have been reported as giving good results. Fowler's solution seems to act well in some cases. The galvanocautery is neither scientific nor surgical, according to Quinlan, and its use should be limited. Major surgery of the part has its perils and may cause serious impairment of speech, but conditions may be promoted which may in every sense be palliative and at the same time insure radical means when the conditions are imperative. In conclusion, he mentions the possibility of change from benign to malignant growths and reports cases.

117. **Nasal Suppuration.**—In the majority of cases of nasal suppuration the presence of carious bone is the result of suppurative process and not its cause; the inflammation has extended from the superficial to the deeper-lying parts. The diseased bone may exist and there be no polypi. The variations in the anatomy of the parts may be a source of considerable perplexity, which is especially true as regards the frontal sinus. The author accepts Grünwald's theories of ozena as nearer the true solution than anything so far advanced. The focal point of suppuration in some one of the accessory cavities is the cause, and when this local disease is cured the attending symptoms also disappear. He has proved this to his own satisfaction in the cases he has observed. In attempting to relieve or cure the patient it seems best to take up each cavity separately, beginning with the antrum, which until recently has been the objective point of most of the surgical treatment. He thinks it is allowable to make an exploratory puncture through the inferior meatus for the detection of pus if transillumination and other methods fail. He would open both above and below in the canine fossæ and the inferior meatus, curetting granulations and washing out the cavity below. As regards the anterior ethmoidal cells he says these parts may be approached safely with the curette and forceps and unhealthy tissue cleared away. The use of the trephine or drill is not without danger even in expert hands. We may be obliged to remove the middle turbinate and other obstruction. The intimate associations with the frontal sinus often compel free exposure and breaking down intervening obstacles to secure good drainage through the whole extent. In the posterior ethmoidal cells and sphenoidal sinus more caution is to be observed. These may be opened by a strong curette and subsequent treatment by washing pursued. Considerable difficulty may be met with in advance upon the sphenoidal sinus, though patient probing will solve the problem. Careful scraping of the anterior wall and floor often produces decidedly beneficial results and Leonard quotes Myles who says he does not consider it safe to curette the upper and external walls of these sinuses.

119. **Adenoids.**—Gradle describes the method and a special instrument, a modification of Schuetz's adenotome, contrived by himself, which presses upward and backward and takes away the entire growth in one piece. He believes that this gives much more satisfactory results and can be employed without anesthesia, which he condemns in these methods excepting under unusual conditions.

FOREIGN.

British Medical Journal, April 6.

A Uterus which Contained One Hundred and Twenty Fibroids. J. BLAND SUTTON.—The writer reports the case of a woman, 34 years of age, who suffered from diffuse bleeding due to fibroids. The uterus was removed by laparotomy and the appendages left. It had a peculiar oval shape and he found four sessile fibroids in its cavity, as large as pigeon's eggs. The surface of the uterine wall was very thickly dotted over with small rounded fibroids, 120 altogether. In all that were examined the structure was similar. These could be described as bundles of plain muscle fibers twined around and immediately associated with the walls of the capillaries, giving the suggestion of the muscle coats of the vessels as the source of growth. These minute fibroids were similar in structure with the large fully-developed growth. Each was globular and, on section, quite white, and was sharply differentiated from uterine tissue by a thin capsule from which it could be enucleated; this capsule was seen to be sharply differentiated in the stained sections when microscopically examined. Although he has examined carefully many hundred of uteri in the last sixteen years, he has never seen one similar to the specimen described, nor has he read an account of one in any way resembling it.

Placenta Previa. R. P. RANKEN LYLE.—The treatment recommended by Lyle, for placenta previa, is as follows: In cases of central or complete placenta previa the placenta is perforated with the fingers, version (if necessary) is performed, and a foot brought down, a tight abdominal binder applied, and the subsequent delivery left to Nature, unless the continuance of hemorrhage should necessitate slight traction on the foot. In cases of incomplete placenta previa, the treatment, with the exception of rupture of the membranes *instead of perforation of the placenta, is identical.* The advantages of version and bringing down the foot are: 1. It does away with the tampon and consequent danger of infection. 2. It allows early operation. 3. It arrests the hemorrhage with great certainty. 4. It gives time for the patient to rally. 5. It gives time for labor pains to set in and consequent natural dilatation of the cervix. 6. There is less danger of post-partum hemorrhage. In cases of placenta previa where the os is not sufficiently dilated to admit two fingers these should be converted into cases of the first or second class as described, and the vagina tightly plugged with boiled cotton wool and a tight abdominal binder applied until labor has advanced sufficiently to dilate the cervix and then to treat accordingly. No time should be lost in the treatment as soon as the diagnosis is made, as at any time severe and sudden hemorrhage may occur.

Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life. J. MITCHELL BRUCE.—The third lecture on disorders and diseases of the heart and arteries takes up the subject of prognosis and treatment. It is always well to inquire after any family history of gout, rheumatism, or heart disease, and all the acute diseases should be looked after as well as the habits as to alcohol, tobacco, etc. The *characters of the precordial impulse* especially the seat of the apex beat and its strength are to be closely investigated. Weakness or absence of the impulse must never be disregarded. The precordial dulness must be mapped out and auscultation be employed to estimate the murmur, etc. The principal signs and symptoms are reviewed by the author. In the first place the mitral presystolic murmur is never significant of senile lesion. The arterial diastolic murmur, whether alone or combined with systolic murmur, shows that we have something more than atheroma, cardiovascular disease, or nervous disturbance and alcoholism and tobacco heart, even if one or more of these is present. Arterial incompetence developing in later life is the result of syphilis or acute and chronic valvular strain, though many instances met with after the age of 40 can be traced to juvenile endocarditis of rheumatic or other origin. While always serious it is especially so when due to syphilis or syphilis and strain. Fully developed basic systolic murmur, audible over the arterial area and manubrium and along the carotid, is a very common sign of atheroma of the aortic arch and valves and great vessels and also of syphilitic and traumatic affections of these organs, and should raise the suspicion of some degeneration in the coronary arteries and myocardial degeneration. An illy-developed *basic systolic murmur* is not uncommon in alcoholism, Bright's disease and nervous disorders, but it is difficult to disassociate it from anemia. The full-developed and audible systolic murmur in the mitral area, independently of leakage in cardiac failure, is usually traceable to rheumatic endocarditis, rarely to injury. Sometimes it may be due to valvular atheroma and attending sclerosis caused by gout, etc., and we must not overlook in these cases the possible association of coronary disease and fatty degeneration. If systolic mitral murmur is somewhat indefinitely affected by compensation and disappears under treatment, it is of no special value other than signfying relaxation and weakness and of disorderly action of the left ventricle consequent on any of the recognized causes of failure or disorder of the heart, including cardiac poisoning, acute disease, etc., and this, whether in a heart previously sound, or enlarged, or the seat of valvular disease. Accentuated ringing second sound in the aortic area or more extensively is of great value in the diagnosis of arterial tension and aortic atheroma, or both, but has too many other associations to be of much use in differential diagnosis. It should suggest careful research for Bright's disease. Slight reduplication of the first sound is common over a senile heart, strained in youth, and hearts degenerated by alcoholism, etc., but it is not unusual in other conditions. On the other hand, galloping rhythm, definite doubling of the first sound, followed by slight accentuated ringing of the second sound, is practically pathognomonic of Bright's disease and one of the most valuable and ominous of physical signs. A normal-sized heart with irregular increased frequency and a variable systolic murmur in the mitral area is characteristic of tobacco poisoning. A heart enlarged on both sides and acting irregularly without murmur is, apart from cardiac failure, suggestive of strain in early life. The cardiac symptoms taken individually are of less value than the physical signs. No one symptom is pathognomonic. Palpitation is a nearly universal phenomenon of cardiac disease; faintness and fainting are not uncommon in cardiac strain, gouty heart and nervous disturbances; angina is met with in gout, tobacco heart, strain, especially after 40, syphilis, and alcohol, while pseudo-angina is extremely common in nervous women. The high tension pulse is most often met with in juvenile strain and nervous cardiac affections, while low tension pulse is connected with alcoholism and tobacco poisoning and senile strain. The prognosis of the different etiologic forms of heart trouble is noticed. In tobacco heart the prognosis is generally good. With alcoholism, however, the condition is much less favorable. If the disease be of recent development, and the condition uncomplicated and the treatment carried out faithfully, recovery may occur, but such cases are rare. Chronic Bright's disease, acute cirrhosis, etc., are common causes of death. Occasionally the end comes suddenly from fatty degeneration. The prognosis of gouty heart is rather difficult. Improvement under treatment may occur, but the condition of arrest can not go on indefinitely. In addition to the danger from Bright's disease, cerebral thrombosis, hemorrhage, bronchitis, and sudden failure of the heart from coronary degeneration are to be feared. Sudden death may occur in old gouty patients, not from the lesions of which a basic or systolic murmur is the evidence, but from associated coronary atheroma which probably was never suspected. In syphilitic lesions the prognosis is still more unfavorable. The condition of the heart from muscle strain is not, however, so serious. It is continuously liable to embarrassment during exertion, but old people often recover from conditions of distress from over-exertion. Cardiovascular disorder and disease from nervous strain pure and simple is amenable to treatment by complete and prolonged rest in the majority of cases, though death may sometimes occur. In any case of the presence of murmur in advanced life, together with cardiovascular degeneration, we must not forget the possibility of intercurrence of acute diseases, such as pneumonia, the prognosis of which is seriously modified by these conditions. In treatment one of the principal things is to correct the habits of the patient, discourage habitual drinking, and heart disease is an admirable argument to employ with some people for this purpose. Reference is also made to the prevention of cardiac strain. As regards the atheromatous process which depends upon toxemia and anemia, the obvious indication is to purify and enrich the blood and, besides personal hygiene, Bruce suggests arsenic and moderate doses of iodids combined with an excess of alkalies. The establishment and maintenance of compensation is, however, the great indication for treatment. Nutrition and activity of the myocardium are to be increased and sustained by specific cardiac stimulants and tonics of which strychnin, ammonia, and the digitalis group of drugs, with the blood remedies, are mentioned, also control of the nervous system and the employment of non-medicinal measures, such as active and passive exercise and baths. He remarks that in many cases where the symptoms are alarming to the patient, such as depression, pain, small, irregular pulse, etc., there may be no failure of the myocardium, but only temporary embarrassment. The condition, however, is not to be neglected, but rest in bed, a carminative draught, calomel and saline purgatives, a digestible diet, and a little time are all the treatment required. When true failure occurs a different set of measures are demanded. The three great therapeutic indications are to reduce the peripheral resistance, increase the vigor of ventricular contraction, and rehabilitate hypertrophy, and remove arrears of work in the form of residual blood in the cardiac chambers, mechanical congestion of the veins and viscera and dropsy of the integuments and serous sacs. Bodily rest, a light solid diet, definite allowance of alcohol, if required, active purgation and sufficiently large doses of digitalis together with saline and other diuretics are the means calculated to obtain the best results. We must not be afraid to purge the patient, if necessary every morning. When the appetite flags or flatulence occurs a blue pill or a dose of calomel should be given and light solid foods instead of slops. Nocturnal restlessness and sleeplessness are to be met unhesitatingly, with permission to spend the night in an easy chair by the bedside; according to the author's experience, acupuncture and drainage succeed perfectly in these senile cases, as much as ten pints or more of serum escaping in the course of twenty-four hours, to the complete and often lasting relief of the circulation.

The New Type of Scarlet Fever from a Public Health Point of View. Wm. Robertson.—An epidemic of scarlet fever at Paisley has been traced by Robertson to the playgrounds, which have been taken advantage of by the children, and the swings and simple gymnastic appliances are credited by him with disseminating the disorder. While there is nothing better, if open-air spaces were more common their frequency would prevent very large collections of children, which has a direct effect in spreading contagious diseases.

The Lancet, April 6.

Existence of Immunity after Enteric Fever. Burton A. Nicol.—Nicol attacks the idea that enteric fever produces immunity, and gives cases which bear out his opinion. He does not deny it, but holds that it is more doubtful than that produced by febrile disorders, such as smallpox, scarlet fever, etc. His experience in South Africa has led him to these conclusions.

Pathology and Treatment of Rheumatoid Arthritis. P. W. Latham.—Latham argues for the nervous origin of rheumatoid arthritis, and he finds no evidence in the postmortem records that the spinal cord or ganglia have been thoroughly examined so as to justify the statement that these parts are healthy and free from organic change. He points to the neurotic character of the antecedents and accompaniments of arthritic trouble, the neurotic pain, weariness, numbness and tinglng, and the migraine which Trousseau and Remak say often precedes the disorder, and the worry, anxiety and shock which are well-known antecedents. The atrophy of the muscles often develops more quickly than could be attributed to mere disuse. He quotes cases to show that injuries to the spine and brain, or any lesion of the nerves, are capable of developing similar symptoms. From all the data it is not unreasonable to assume that rheumatoid arthritis is due to spinal congestion or chronic myelitis chiefly affecting the ganglion cells of the anterior horns, but extending also, when the disease is associated with "glossy skin," to the ganglion cells in the posterior horns of the cord. Two cases are reported in full, and he suggests, in accordance with these views, that a continuous counter-irritation, employed in these cases, is a useful therapeutic measure.

Bulletin de l'Academie de Medecine (Paris), March 26.

Physiologic Aspect of Spinal Cocainization. J. V. Laborde.—Several years ago Laborde published a monograph reporting extensive experimental research in regard to the toxic and physiologic action of cocain and its salts. He found one of the first effects to be a neuromuscular or motor hyperstimulation, keeping the animals tested in incessant, irresistible and uncontrollable motion—which explains the trembling and convulsive phenomena sometimes noted in man after its use. The analgesia following the administration of the cocain is localized at first, but spreads with the intravascular absorption, and induces marked vasoconstriction in addition to its specific action on the nervous elements by direct contact. This vasoconstriction is succeeded by vasodilation. The cardiorespiratory function becomes profoundly altered, passing from acceleration and irregularity to asphyxia complicated by convulsions in the fatal intoxications. These phenomena indicate that the cocain acts principally on the bulbar centers and that variations in the blood pressure co-operate in the functional disturbances. Other constant symptoms were vomiting and phenomena which could be explained only by assuming the existence of headache, from the extension of the action of the cocain to the cerebral centers. Injected under the arachnoid, the cocain moves with the cerebrospinal fluid at every movement of the patient, and finds its way to the medulla oblongata and even to the encephalon. This is demonstrated by the functional disturbances which result from its action on the medulla and brain, the vomiting, headache, tremor, cardiorespiratory syncope, etc., similar to the sequence observed in the experimental research. They render possible the gravest accidents and may terminate in death. Laborde concluded by protesting against Tuffier's assertion that heart disease and arteriosclerosis do not contraindicate spinal cocainization. The hypodermic method of cocainization which Reclus has used with success on 7000 patients without a single serious complication, and of which spinal cocainization is merely an offshoot, might be extended to the intramuscular or even the intra-abdominal injection of cocain, which would enlarge the field for operations, while avoiding the perils of the intraspinal route.

Echo Medical du Nord (Lille), March 31.

The Exclusive Milk Diet. Surmont.—French physicians have unbounded confidence in the "absolute lacteal régime" and prescribe it in all cases in which the patient requires an easily digested food, substantial and yet not burdening nor irritating the alimentary canal; also in cases in which the intestinal fermentation must be reduced in order to diminish to the minimum this important source of organic autointoxication, and also when it is necessary to promote the urinary excretions and the elimination of toxins. Surmont states that the amount of milk should be about four liters a day for an adult, in conditions of repose or doing light work. The milk should be boiled, unless it is known to come from a cow which has passed the tuberculin test and is kept in disinfected quarters. It should be taken quite warm, at intervals of two hours, and sipped slowly, during ten or fifteen minutes. In case of marked gastric excitement, with a tendency to vomiting, the milk should be cold. An important precaution is to keep the mouth scrupulously disinfected. After each one of the eight meals of milk, the toilet of the mouth should be made with some alkaline solution such as sodium borate, to cleanse the mouth of all traces of the milk, which otherwise ferment and impair the appetite, while the noxious products are ingested with the next meal. The taste of the milk can be disguised with tea, coffee, chocolate, peppermint, chamomile, sage, sugar, salt or seltzer water, or it can be rendered effervescent, or be flavored with vanilla, orange-flower water, brandy, rum or other liquor when they are not contraindicated. By varying these flavors the patient can finally be induced to take the milk without addition. In certain cases of dyspepsia with abnormal fermentation, there is absolute intolerance for the milk at first, and the cream and upper part of the milk should be rejected and the balance mixed with 25 to 50 per cent. of an alkaline mineral water. In such cases Surmont begins with an energetic purge followed by plenty of water but no food for twenty-four hours, commencing then cautiously with the milk as above. The constipation that sometimes accompanies the milk diet can be combatted by a rectal injection of cold water once or, better still, twice a day, supplemented by a tablespoonful of linseed three times a day or other appropriate measures. Kefir sometimes substitutes milk to advantage or leads up to it.

La Gynecologie (Paris), January-February.

Non-Infectious Congestion and Sclerosis of Uterus. L. G. Richelot.—In the gouty or neuro-arthritic diathesis the connective tissue is the tissue of least resistance, and this tendency induces sclerosis in all the organs. The ovaries and uterus suffer with the others from this trophic lesion. The process is first a primary congestion followed by sclerosis and the final transformation of the uterus into a very large fibrous organ without fibromata. The process is not infection, and yet it is usually diagnosed and treated as metritis, the only effect being to aggravate the symptoms. The first stage is what has been erroneously called "virginal metritis," but in reality there is no infection nor inflammation, but always a history of delayed, difficult and irregular menstruation, with more or less backache, neuralgia, migraine, eczema, pains in the joints and a catarrhal discharge, apparently to compensate the inadequate flow of blood. In the next phase of the process the pains are more constant, the menses recur with abnormal frequency, and the losses of blood may entail anemia. But it is absurd to attribute the trouble to anemia and treat it accordingly, as iron and tonics merely exaggerate the evil. The pains are at times to be relieved only by reclining. The exacerbations of the congestion usually coincide with the menses, but frequently appear during the intervals, and are sometimes periodical, with or without a discharge of blood or mucus. This pseudo-menstruation betrays the influence of the nervous system. There is usually constipation, cystalgia and rectalgia. In the confirmed stage of this pseudo-metritis the uterus and its cavity are enlarged, the walls thick, but the mucosa is smooth, with no muco-pus. Curetting is worse than useless, except when the uterus contains fungous growths or mucous polypi. The process may have long periods of latency, but there is usually an exacerbation at about 40 years of age, in which the loss of blood and severe pains justify the most radical measures. At any stage of the process an infectious metritis may be superposed and its treatment is of course indicated, but the neuro-arthritic soil should never be forgotten. The latter is responsible for the relaxation of the fibrous tissue which may induce displacements of the uterus or prolapse, intestinal hernia, sinking of the kidney or other ptoses. It is also a favorable soil for the development of carcinoma in the sclerous uterus. The treatment in the first stage of this primary congestion is rest in bed. The young girl should stay in bed from the first day of the molimen until twenty-four hours after the last trace of blood has disappeared from the discharge. In the intermenstrual periods violent exercise, bicycling, horse-back riding and the abuse of dancing should be forbidden. Hydrastis, viburnum and piscidia erythrina are useful adjuvants, but are not equal to quinin sulphate, in the dose of 1 to 1.5 gm. Ergot has little value outside of the puerperium. In case of young married women, rest in bed is equally imperative, but it should be supplemented by vaginal injections of boiled water at 50 C., twice a day, taken in bed; five to ten liters, injected slowly, will arrest the congestion, hemorrhage and pain. Enemata with laudanum or antipyrin are also useful. The constipation should be relieved. Glycerin tampons applied to the cervix induce a serous secretion and relieve the congestion of the tissues. Massage is an illusion and is actually injurious in genuine metritis, but is extremely beneficial in these cases of congestion and pseudo-metritis. When done with skill and tact it proves a most beneficent measure in many cases. If hemorrhagic sclerosis requires cauterization, injections of zinc chlorid rank first. Hydrotherapy and water cures are beneficial with hot springs for cases with much pain. The seashore aggravates the tendency to congestion. Patients unable to leave home should take alkaline baths and dry frictions, and avoid tonics, especially iron, which ruins the stomach, favors constipation and overstimulates the nerves. In extreme sclerosis the dilatation of the cervix with laminaria tents will often prove effective, and in some cases will arrest serious hemorrhages. Supravaginal amputation may be required in certain cases and even vaginal hysterectomy, and it is better, Richelot thinks, to apply it at an early stage rather than to perform a series of less extensive operations.

Nouv. Iconographie de la Salpetriere (Paris), February.

Echinococcus Cysts in the Brain.—There are three separate illustrated articles on this subject. One case, reported from Gilles de la Tourette's service, was a man of 69, a day laborer, brought to the hospital in coma, his face congested, respiration stertorous, no hemiplegia, temperature 39.5 C. Death occurred in a few hours. He had occasionally had similar attacks, sometimes with convulsions, but had always apparently recovered in a few days; the attacks had always been attributed to drink. A hydatid cyst the size of an egg was found entirely included in the right hemisphere, which appeared normal in color and consistency. Auvray has collected 7 patients cured or improved in 16 similar cases operated on. In another, a girl of 17, who worked in the fields, suffered from headache and somnolence and at the autopsy nearly four hundred cysticerci of the tenia solium were found scattered through the encephalon, all in the gray matter. The patient had a history of a severe, almost fatal illness a year before, followed by comparative health. This illness may have coincided with the invasion of the centers by the parasite. No tenia was found in the intestines, but quantities of ascarides. The principal features of the third case, reported by Serieux, were cortical deafness, absence of paraphasia in spontaneous speech, paralexia, loss of comprehension of words read, impossibility to write, hallucinations in hearing and seeing, and epileptiform attacks. The patient was a man of 75, a forester. The autopsy showed a number of hydatid cysts disseminated superficially and with a certain symmetry in the temporal lobes, the Rolandic region and frontal lobes, all small. A fourth of the parasites were dead. The brain was the only organ affected by the echinococci.

Presse Medicale (Paris), March 30.

The Blastomycetes in Human Pathology and Serum Treatment. G. Wlaeff.—The virulence of blastomycetes can be enhanced by passage through animals the same as in the case of bacteria. They then appear under variable aspects, changing their size materially under the influence of certain media. They may induce in the animals septicemia, abscess, pneumonia, nephritis, pyelitis, cysts, carcinoma—in short, all the various pathologic processes from which they have been derived and isolated in man. With these blastomycetes Wlaeff found that it was possible to immunize birds and mammals and to obtain a serum possessing a specific action on malignant tumors in man. Numbers of writers have published instances demonstrating the large share of the blastomycetes in human pathology. Wlaeff conducted experiments on 510 animals with cultures of blastomycetes obtained from the Paris Pasteur Institute and the institute at Prague, and a culture isolated by Plimmer from a carcinoma of the mamma. He treated 40 cases of malignant neoplasm with the serum thus derived—his anticellular serum, as he calls it—from geese and asses immunized in the course of a year with pathogenic blastomycetes. There was an appreciable reaction, both local and general, to the injections of the serum in nearly every case. The intensity of the reaction and, in fact, the different clinical pictures induced by the blastomycetes, depend on the condition of the organs in each individual. Experimental research corroborates clinical experience that with virulent blastomycetes it is possible to induce all kinds of pathologic processes by modifying their virulence and by modifying at the same time the conditions of resistance of the subject or of various organs. The supposed coccidia observed by certain scientists are probably blastomycetes—this identity seems probable on comparison of the numerout cuts appended.

Congenital Alcoholism. Nicloux.—This report of extensive personal research states that 10 per cent. of the alcohol ingested in the form of alcohol passes into the blood. Intoxication follows when 1 to 2 c.c. are ingested per kilogram, increasing to profound intoxication with 4 to 6 per cent., corresponding to 4 to 6 c.c. for each kilogram of weight. The alcohol also passes into the lymph, saliva, bile, urine and cerebrospinal, amniotic and pancreatic fluids and also into the milk. It is found in the latter in about the same proportion as in the blood. The blood of the fetus also contains the same or nearly the same proportion as that of the mother. If the male organism is under the influence of alcohol, the semen is also impregnated with it, and in the female, the ovary and consequently the ovule.

April 3.

Physiology of Kernig's Sign. A. CHAUFFARD.—In the defective muscle-tone of tabes dorsalis there is no flexion of the knee. In normal conditions the knees are in slight, natural semiflexion, easily reducible. In the exaggerated muscle-tone of meningitis the flexion is exaggerated and not reducible without pain. The last, most pronounced stage of the flexion is the generalized contraction of tetanus. Kernig's sign can therefore be defined as a uni- or multi-regional contraction, affecting the predominating groups of muscles and occuring in the course of assuming a position which normally calls for this predominance, but in meningitis it is pathologically fixed in a painful and irreducible attitude. The sign is always a morbid phenomenon, but it is not necessarily localized exclusively in the knees. It is liable to be noted in the arms and to it is also due the rigidity of the back of the neck and the spine.

Semaine Medicale (Paris), April 3.

Alimentary Levulosuria in Connection with Liver Affections. R. LÉPINE.—Minkowski's experimental research on dogs, after ablation of the pancreas, and the work of others, have demonstrated that levulose is assimilated only when the liver is intact. This explains why it is tolerated only in certain cases of diabetes. A patient recently observed by Lépine, a woman in advanced cachexia, with complete impermeability of the common duct and consequent impairment of liver functions, was able to assimilate 150 grams of glucose without glycosuria, while 80 grams of levulose induced levulosuria. According to von Noorden and Strauss, icterus and other affections of the liver do not afford favorable conditions for the production of alimentary glycosuria. These facts also harmonize with the experimental observation that the tolerance for glucose is diminished very little in frogs that have had the liver removed. Our ideas in regard to alimentary glycosuria are becoming modified. It is no longer universally accepted as an indication of hepatic insufficiency, and the German writers mentioned above even deny it any value in the semeiology of the liver. It is possible that in some of the tests that have been reported, saccharose—a mixture of glucose and levulose—may have been used. In future, pure levulose should be used as a diagnostic measure for hepatic insufficiency.

Centralblatt f. Allgem. Pathologie (Jena), March 5.

Metastasis of Normal Thyroid Gland. H. ODERFELD.—A supposed sarcoma was removed from the forehead of a man 58 years of age. The tumor had developed in the course of three months and had attained the size of an egg. It was in the bone and the histologic structure was identical with that of the normal thyroid gland. No other pathologic manifestations could be discovered. In the only similar case on record, reported by Riedel, the tumor was in the lower jaw. Becker's case of a similar tumor in the supraclavicular fossa was probably an accessory thyroid gland.

Centralblatt f. Bakteriologie u. Infekt. (Jena), February 21.

Length of Life of the Plague Bacillus. N. K. SCHULTZ.—Some specimens of the plague bacillus sealed in tubes, protected from the sunlight, and kept in a cool place, had lost none of their virulence when the tubes were opened after four years. The preservation of the vitality seems to be favored by the contraction, shriveling and thickening of the protoplasm.

Artificial Immunity to Malaria with Euchinin. A. CELLI.—During the last four years Celli has been interested in nine persons living on the Pontine Marshes who were reputed to have a natural immunity to malaria, as none had ever contracted it. In 1900 one of these persons had a slight attack and another, a man of 34, had severe estivo-autumnal fever. Celli's experience in regard to natural immunity does not confirm that of Koch, as he knows of many regions where the people, either from poverty or prejudice, never take quinin, and yet the children do not acquire immunity in time, but suffer repeatedly from malaria in after years. The maximum mortality from malaria in Italy is between the ages of 5 and 20. He has been conducting extensive research on the hemolysins and antihemolysins in malarial blood, but it has proved practically useless. He anticipates better results from the use of certain drugs as a prophylactic measure against malaria. Quinin is not practicable for the purpose, he states, as few persons can tolerate the amounts required for effective prophylaxis. With euchinin, however, it is possible to accomplish the purpose without any inconvenience. In his extensive tests of the drug he found the effectual dose for adults to be .5 gram, and for children .25 gram, taken at one dose in the morning. The laborers on the Pontine Marshes, the Maremma and the plain of Catania took the euchinin for one to five months and experienced no gastric disturbances, ear symptoms nor disturbances of any kind from its use. Only 12 out of 116 thus treated, who had never had malaria, contracted it, while 172 of the 271 laborers who did not take it, became affected. Only 1 of 11 railroad employes treated with the euchinin showed any symptoms of malaria.

Centralblatt f. Gynekologie, March 9.

Spontaneous Hematoma During Pregnancy. W. STOECKEL.—In one of the two cases of spontaneous hematoma in the abdominal wall, which are described, the patient was in the ninth, in the other in the sixth, month of pregnancy. The hematoma developed suddenly while the patient was coughing, and caused violent pain at first. No similar case is recorded in the accessible literature, but the possibility of such an occurrence should not be forgotten in forensic cases.

Deutsche Med. Wochenschrift (Berlin and Leipsic), March 28.

Cholesterin the Vulnerable Substance in Red Corpuscles for Saponin. F. RANSOM.—Saponin will dissolve the corpuscles in dog's blood so that the solution remains perfectly clear and no precipitate is deposited in twenty-four hours. Ransom reports experiments which show that cholesterin is the substance in the corpuscles which is affected by the saponin. Further research showed that cholesterin binds the saponin and will annul the toxicity of the latter. The same substance, therefore, which attracts the saponin to the red corpuscles and thus induces their destruction, when free in the serum, binds and annuls its toxic action. This research is the first successful attempt to isolate from a tissue the vulnerable substance, and demonstrate that the same substance can and does serve as an antitoxin under other circumstances.

Stenosis of the Pylorus in Infants. HUEBNER.—Stenosis of the pylorus may appear so early that it is liable to be diagnosed as congenital. The symptoms are incessant vomiting, almost complete constipation and scanty urinary secretion. Peristaltic waves can be observed in the moderately dilated stomach. Huebner has observed eleven such cases. The infants fall into inanition, but in spite of the threatening symptoms he does not advise operating for this spastic stenosis. When the child was well tended and no hospital infection intervened, all recovered after two months or thereabouts, sometimes longer. The infant is fed as usual, only at longer intervals, and the parents are told that the vomiting and emaciation will probably continue for a long time but will then gradually subside. The little that is retained by the child is digested. He applies warm cataplasms to the stomach several times a day, irrigates the intestines and sometimes supplements these measures with small doses of opium. He has never observed any benefit from lavage of the stomach in these cases.

Operation for Hemorrhage from Gastric Ulcer. STRAUSS.—Examination of six cases of fatal hemorrhage from the stomach showed that in none of them could operative measures have had a chance of success. In case of suspected transformation of an ulcer into a carcinoma, an important differentiating point is the determination of metastatic nodules in Douglas's pouch, palpated through the rectum, or of similar nodules in the thorax by radiography. These measures should never be neglected in dubious cases. An ulcer is seldom cured; it merely enters on a phase of latency in the apparently cured cases. By the abundant use of the fats of milk the tendency to hyperacidity can be combatted. This is especially useful in cases of motor insufficiency, to substitute the readily fermenting carbohydrates. In a recent case of motor insufficiency with a history of gastric ulcer and hemorrhage at one time, the acute hypersecretion had dried out the tissues and induced such weakness of the heart's action that salt solution was injected to enable the patient to live until the next morning when the operation was planned to relieve the motor insufficiency. But the next morning the entire syndrome of stenosis of the pylorus had vanished. Strauss can explain this phenomenon only by the assumption that the obstruction had been due to some adhesion, cicatricial fibers or kinking, which had become broken or straightened during the ride to the hospital. During the two years that have elapsed since, the patient has returned twice with symptoms of motor insufficiency, cured each time by several weeks of a diet of albumin and fats.

Stain for Elastic Fibers in Sputa. L. Michaelis.—Weigert's stain for elastic fibers consists of fuchsin, resorcin and ferric chlorid. Michaelis has found that a number of other stains are equally effective, although the color varies when fuchsin, thionin or cresyl violet RR or safranin or methyl violet is combined with the resorcin. With fuchsin and resorcin for instance, the elastic fibers are stained a dark violet while all other fibers are colorless. The thick, suspicious portion of the sputum is spread evenly between two object glasses and dried in the air. They are then placed in a cylindrical vessel containing the stain, which can be used again and again. After one half-hour the specimen is rinsed with water and treated with 3 per cent. hydrochloric alcohol until the stain has almost entirely disappeared. A drop of cedar oil is then spread over the entire object glass. By this simple technique it is possible to determine the presence of elastic fibers in the sputum in the incipient stages of tuberculosis. In bronchitis there is no element in the sputum which reacts like this to the stain. This technique has given great satisfaction wherever used; it absolutely differentiates the elastic from all other fibers, and has afforded interesting information in regard to the arrangement of the elastic fibers in the lungs in advanced cases of phthisis.

April 4.

Galvanocaustic Occlusion of Vessels in Intranasal Operations. Ortmann.—For several years Ortmann has made a practice of galvanocaustic occlusion of the vessels supplying the parts, as a measure preliminary to certain operations on the nose. By this means the operation can be performed without the loss of a drop of blood to obscure the field. It is especially useful in the removal of portions of the inferior turbinate, and of the horizontal margins of the bone or cartilage, and also in case of hemorrhage from the septum.

Acute Yellow Atrophy of the Liver Terminating in Recovery. Albu.—In 1892 Wirsing was able to collect only 15 cases of acute yellow atrophy of the liver in which there was no history of syphilis and the patients recovered, and only two have been reported since. Albu reports another case free from syphilitic antecedents. The patient was a young man on his wedding trip, previously robust, but three weeks before his marriage symptoms of icterus had appeared after a series of violent emotions. The fever continued for nearly two months, with five apparent crises, when the patient perspired and the temperature dropped. The symptoms presented the classic picture of yellow atrophy of the liver, but the patient gradually recovered, except for slight icterus, in the course of three months, and the icterus also disappeared in another month, with complete return of strength. Examination of the metabolism on the fifth day of the disease showed that the nitrogen in the urea formed 75 per cent. of the total of 8.109 grams of nitrogen in 890 c.c. of urine one day, and the next, 85 per cent. of the total of 6.692 gm. of nitrogen in 980 c.c. of urine.

Jahrbuch f. Kinderheilkunde (Berlin), March 1.

Wandering Kidney in Infancy. W. Knoepfelmacher.—Hollederer has stated that he found a wandering kidney in five out of a hundred children he examined, and each of the five was more than 12 years of age. In this article it is asserted that the kidneys of infants only 2 or 3 months old can be easily palpated through the rectum; at least the lower third or half can be thus palpated. The right kidney is more accessible than the left. The kidney is larger in nurslings in proportion to the length of the trunk, and they extend farther down than in adults. The hilus of the kidney in the adult is on a line with the first to the second lumbar vertebra, but in the newly-born, with the second vertebra. These organs are more movable than in the adult and there is some respiratory mobility. In two cases, one an infant 9 and the other 4 months old, unilateral wandering kidney was noted and the liver and spleen were also abnormally movable. The latter, however, should not be regarded as a sign of congenitally misplaced kidney.

Affections of Spinal Cord in Inherited Syphilis in Nurslings. R. Peters.—In 11 cases Peters has observed a sudden paralysis appear in infants of 2 to 3 months, indicating a lesion in the spinal cord with the brain intact. The paralysis affected the upper or lower limbs, or both, and was usually accompanied by a characteristic attitude of the hands resembling the position of the flippers of a seal, only more extreme. The forearm was in marked pronation, the back of the hands turned inward and the palms outward, the joint flexed and adducted to the body. He calls this the "Flossenstellung," or flipper position, and observes that it was prominent in 9 of his 11 cases. In 4 there were other manifestations of inherited syphilis and in 5 the parental history was suspicious, but in 2 there was absolutely nothing in either parents or children to suggest syphilis, and yet all recovered almost immediately after the institution of specific treatment. All the symptoms indicated the peripheral nature of the affection, and he suggests, as a plausible assumption, the possibility of a syphilitic arterial affection with disseminated foci of softening and eventual induration, a condition analogous to that described by Charcot, in adults, as *état tigré*. Inunctions of gray ointment were borne well by the children and the cure was complete with ten on an average, although a few required as many as thirty. Calomel and potassium iodid were administered to the mother at the same time. The daily dose of .5 gram of gray ointment for ten days was rubbed into one child in one day by a mistake, but he experienced no ill effects and recovered with unusual rapidity. Improvement was usually marked after three inunctions.

Muenchener Med. Wochenschrift, March 26.

Experimental Production of Cirrhosis of the Liver. Marckwald.—Frequent injections of small amounts of antipyrin in frogs, rabbits, etc., induced cirrhosis of the liver as the reaction of the organism to a primary destruction of the liver cells. Injections of large amounts caused acute destruction of the organ. Comparing this action of antipyrin with that of other agents which we know cause cirrhosis of the liver, and comparing the anatomic findings with those observed in the human cirrhotic liver, it seems reasonable to assume that alcohol or any agent capable of causing the destruction of the liver cells, induces cirrhosis of the organ in case of chronic action unless the latter is prevented by some obstacle outside of the liver.

Natural Immunization of Tuberculous Families. A. Reibmayr.—Bacterial and malarial diseases confer in time more or less immunity which is not restricted to one generation but may be inherited by succeeding generations. This law applies also to chronic affections like tuberculosis, and the genealogic study of tuberculosis is, Reibmayr thinks, the surest way to throw light on obscure problems. He points out the changes in the constitution observed in families who have struggled with tuberculosis for generations, and states that the prophylaxis of the disease should be sought in the maintenance of the fund of immunity derived by inheritance from preceding generations and the increase of this resistance by hygienic and other measures.

April 2.

Childbirth with Deformed Pelvis. W. Albert.—The principles of the treatment of childbirth in a narrow pelvis are summarized by Albert as follows: In case of primiparæ with a conjugata vera of 7 to 9.5 cm., a spontaneous birth should be anticipated and promoted; with multiparæ, version should be done, bearing in mind the possibility of a spontaneous birth. The colpeurynter is especially valuable in this group of cases, and with the bag of waters intact, affords the most favorable conditions for success. If the waters have escaped, the colpeurynter can be introduced inside the uterus and its tube used for traction. As soon as the fingers can reach the fetal mouth, *the position* of the woman *is changed from the* dorsal with flexed limbs, to the Walcher position with limbs pendent. One writer claims that the results for the children *have proved successful* in 20 per cent. *more cases than before* the introduction of the Walcher position into *practice*. Multiparæ are treated the same, unless the head refuses to come down after the cervix is fully dilated, in which case version and *immediate* extraction follow. These principles *have been the* guide at the Dresden clinics and 81.3 per cent. of the children were dismissed living; only 1 of the 60 patients treated with version and extraction according to these rules died. There was a rupture of the uterus in this *fatal* case. Chrobak has reported 6 deaths in 133 women treated by version and extraction, with only 48.9 per cent. living children. Braun-Herzfeld reports 2 deaths in 89 patients thus treated, with 70.7 per cent. living children. Leopold and Rosenthal report 2 deaths in 102 cases, with 68.4 living children, and Leopold and Lochmann, 3 deaths in 70 cases, with 64 per cent. living *children*. The statistics at Dresden are therefore more favorable than any of the others in respect to both mothers and children. The colpeurynter protects or after rupture substitutes the bag of waters.

Manipulative Treatment of Congenital Luxation of the Hip-Joint. C. Ghillini.—The aim sought is to bring the head of the femur into the spot where the socket ought to and would be in normal conditions. If the head is pushed up beyond it, the femur is twisted into exaggerated abduction. If it is below the proper point, it is twisted in *adduction*; if pushed forward, it is twisted inward, and outward if pushed backward. In more than a hundred cases thus treated, many of them bilateral, the results have been very satisfactory. The head of the femur is maintained for six months to a year in contact with the spot where the normal acetabulum should be, and the result is the formation of a new joint. It does not anatomically resemble a normal joint but has the same functions.

Queries and Minor Notes.

SECRETARY OF OREGON BOARD.

Detroit, Mich., April 9, 1901.

To the Editor:—Please give me the name and address of the Secretary of the State Board of Medical Examiners of Oregon.

R. P.

Ans.—Dr. Byron E. Miller, 401 Dekum Bldg., Portland, Ore.

STATES NOT REQUIRING EXAMINATIONS.

Utica, N. Y., April 14, 1901.

To the Editor:—Will you kindly inform me what states do not require examination for practicing medicine, simply registering a diploma from a recognized school in good standing. "M. D."

Ans.—This question was answered in The Journal of April 13, p. 1081.

U. S. MEDICAL SCHOOLS.

Pine Bluff, Ark., April 2, 1901.

To the Editor:—Will you kindly inform me where I can procure a list of recognized, reputable medical schools in the United States?

A. C. J.

Ans.—Write to Dr. Bayard Holmes, of this city, Secretary of the Association of American Medical Colleges, 103 State St., Chicago, and to Dr. Chr. Tompkins, Richmond, Va., Secretary of the Southern Medical College Association, for the information required.

SCHOOLS FOR THE FEEBLE-MINDED.

Evanston, Ill., April 19, 1901.

To the Editor:—Will you kindly give me information as to, or recommend, some school for the care of the feeble-minded, not necessarily in, but easily accessible to Chicago? N. J.

Ans.—See The Journal of April 13, p. 1081. There is such a school at Kalamazoo, Mich., under the management of Dr. C. T. Wilbur, formerly superintendent of the Illinois State Asylum for the Feeble-Minded; also one at Godfrey, Ill., known as the "Beverly Farm" Home and School for the Feeble-Minded, Dr. W. H. C. Smith, superintendent.

PHYSICIANS AND THE AUTOMOBILE.

Philadelphia, April 8, 1901.

To the Editor:—I began to use the automobile in June last, and from the very beginning of my experience have employed it in my daily work. I estimate a mileage of 5000 to 6000 on this my original carriage. It is of the hydrocarbon or gasolin type. I am more strongly convinced than ever that this is *the* system. A few of its advantages over steam may be incidentally noticed. It may be started at an instant's notice—a turn of the crank and you are off. Having reached your destination the current is turned off. You may stop an instant or you may stop indefinitely. A turn of the crank and you are ready to start again. Incidentally that means saving of fuel. Economy of fuel is another thing. At a liberal estimate steam uses twice as much. The system is safe, simple and reliable. It can be operated at all seasons, while steam is not suited to zero weather, for some of the pipes will freeze up. I am convinced that the immense superiority of the hydrocarbon system will be fully demonstrated in the near future.

A word regarding difficulties I have experienced: 1. Bad wiring gave me much annoyance at the start. A liquid battery was dirty and sloppy. The dry cell has been found reliable. 2. Pneumatic tires. The heavy machines are equipped with single-tube tires. Repair in case of puncture is difficult, sometimes impossible, and punctures will sooner or later occur. My first set of tires gave out after three months of use, and they were replaced by the maker. The second set gave better results: both rear tires have recently been punctured. Removal from the rims is necessary in order to have a repair made. This involves expense of time and money and occasionally failure to effect a repair. The seriousness of this failure must be evident when it is remembered that the outlay for a single tire is a little over $40. The use of double-tube or clincher tires on the lighter and medium weight wagons promises a solution of the trouble. Experience demonstrates that punctures occur more than twice as often on the front wheel as on the rear wheel. A puncture in a double tube can be repaired in a few minutes, while the repairmen want two or three days, sometimes longer, to repair a single tube. In case of a cut the process of vulcanizing a single tube may be impossible; if a double tube, no matter how extensive the cut, it can always be vulcanized.

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That the automobile is capable of taking the place of the horse for our daily use, I fully believe; indeed, it is able to fill the place of three horses. It may be kept on one's own premises, and gotten under way in as short a time as is required to mount a bicycle. The advantages of this must be at once manifest.

As to the amount of attention required, a man or an intelligent boy is quite necessary. In addition to the attention he may give I would urge a personal supervision of all the details of the machinery, lubrication, etc. One should have everything in perfect order by attending to the little things, e. g., tightening loose bolts and nuts, and, finally, operating one's own machine. The chances are you will then get home every time. Nor will you be compelled to make wayside demonstrations to idle, curious and sometimes impertinent onlookers. One of my friends in this city has driven one of these same wagons over 13,000 miles in the last two years, and to the complete exclusion of horses. His repair bills have not amounted to a hundred dollars in the last year. I am told by his repairman that "Dr. —— never breaks anything." The doctor who has some mechanical taste and who likes such things may safely buy an automobile now. Let it be a hydrocarbon or gasolin machine and, preferably, unless he has money to burn, a second-hand one.

Daniel Longaker, M.D.

A NEW CURE AND A COMMENT.

We recently received a piece of medical literature in the shape of a little pamphlet in which is reported "A Case of Gastric Carcinoma," successfully treated by a certain drug, let us call it sodium chlorid. The pamphlet in question, as the man said about the play, is so shockingly bad that it is good. There is a frankness about the writer that is refreshing. Without any preamble he tells us, in a plain straightforward manner, why he reports the case; the first reason being that gastric cancer is not a disease of frequent occurrence, and that possibly he would never see another case. The second is that he had such good results that he wanted others to know of his method of treating this generally supposed-to-be-fatal disease. So, too, in his clinical history of the case the author goes directly to the point and asserts boldly that this was a case of carcinoma of the stomach. He wastes no time in useless inquiry into the family history, previous illness of a similar or different character, nor does he annoy the reader with any question about differential diagnosis, whether jaundice, for instance, might have indicated gall-stones or whether the swelling might possibly have been a distended gall-bladder.

The patient, an adult male, had symptoms of gastric catarrh, for which the Doctor had been treating him for a few weeks, when one day the appearance and expression of the face suggested malignant disease, and it occurred to the physician that an examination would be in order, and, as a result of this examination, a smooth, hard, round tumor was felt "in the position occupied by the pylorus." We are told there was some vomiting and some blood found in the vomitus and stools, and hence the diagnosis, cancer of the pylorus. The patient refused consultation. Under the use of the drug in question the vomiting ceased, also the yellow tint of the eye and skin disappeared, etc. We might think the Doctor a little rash in his diagnosis, or hasty in arriving at conclusions, but we are distinctly told that this is not his characteristic manner of doing things. Thus on a certain day he reduced the dose to cases of motor insufficiency, to substitute the readily fermenting carbohydrates. In a recent case of motor insufficiency with a history of gastric ulcer and hemorrhage at one time, the acute hypersecretion had dried out the tissues and induced such weakness of the heart's action that salt solution was injected to enable the patient to live until the next morning when the operation was planned to relieve the motor insufficiency. But the next morning the entire syndrome of stenosis of the pylorus had vanished. Strauss can explain this phenomenon only by the assumption that the obstruction had been due to some adhesion, cicatricial fibers or kinking, which had become broken or straightened during the ride to the hospital. During the two years that have elapsed since, the patient has returned twice with symptoms of motor insufficiency, cured each time by several weeks of a diet of albumin and fats.

Stain for Elastic Fibers in Sputa. L. Michaelis.—Weigert's stain for elastic fibers consists of fuchsin, resorcin and ferric chlorid. Michaelis has found that a number of other stains are equally effective, although the color varies when fuchsin, thionin or cresyl violet RR or safranin or methyl violet is combined with the resorcin. With fuchsin and resorcin for instance, the elastic fibers are stained a dark violet while all other fibers are colorless. The thick, suspicious portion of the sputum is spread evenly between two object glasses and dried in the air. They are then placed in a cylindrical vessel containing the stain, which can be used again and again. After one half-hour the specimen is rinsed with water and treated with 3 per cent. hydrochloric alcohol until the stain has almost entirely disappeared. A drop of cedar oil is then spread over the entire object glass. By this simple technique it is possible to determine the presence of elastic fibers in the sputum in the incipient stages of tuberculosis. In bronchitis there is no element in the sputum which reacts like this to the stain. This technique has given great satisfaction wherever used; it absolutely differentiates the elastic from all other fibers, and has afforded interesting information in regard to the arrangement of the elastic fibers in the lungs in advanced cases of phthisis.

April 4.

Galvanocaustic Occlusion of Vessels in Intranasal Operations. Ortmann.—For several years Ortmann has made a practice of galvanocaustic occlusion of the vessels supplying the parts, as a measure preliminary to certain operations on the nose. By this means the operation can be performed without the loss of a drop of blood to obscure the field. It is especially useful in the removal of portions of the inferior turbinate, and of the horizontal margins of the bone or cartilage, and also in case of hemorrhage from the septum.

Acute Yellow Atrophy of the Liver Terminating in Recovery. Albu.—In 1892 Wirsing was able to collect only 15 cases of acute yellow atrophy of the liver in which there was no history of syphilis and the patients recovered, and only two have been reported since. Albu reports another case free from syphilitic antecedents. The patient was a young man on his wedding trip, previously robust, but three weeks before his marriage symptoms of icterus had appeared after a series of violent emotions. The fever continued for nearly two months, with five apparent crises, when the patient perspired and the temperature dropped. The symptoms presented the classic picture of yellow atrophy of the liver, but the patient gradually recovered, except for slight icterus, in the course of three months, and the icterus also disappeared in another month, with complete return of strength. Examination of the metabolism on the fifth day of the disease showed that the nitrogen in the urea formed 75 per cent. of the total of 8.109 grams of nitrogen in 890 c.c. of urine one day, and the next, 85 per cent. of the total of 6.692 gm. of nitrogen in 980 c.c. of urine.

Jahrbuch f. Kinderheilkunde (Berlin), March 1.

Wandering Kidney in Infancy. W. Knoepfelmacher.—Hollederer has stated that he found a wandering kidney in five out of a hundred children he examined, and each of the five was more than 12 years of age. In this article it is asserted that the kidneys of infants only 2 or 3 months old can be easily palpated through the rectum; at least the lower third or half can be thus palpated. The right kidney is more accessible than the left. The kidney is larger in nurslings in proportion to the length of the trunk, and they extend farther down than in adults. The hilus of the kidney in the adult is on a line with the first to the second lumbar vertebra, but in the newly-born, with the second vertebra. These organs are more movable than in the adult and there is some respiratory mobility. In two cases, one an infant 9 and the other 4 months old, unilateral wandering kidney was noted and the liver and spleen were also abnormally movable. The latter, however, should not be regarded as a sign of congenitally misplaced kidney.

Affections of Spinal Cord in Inherited Syphilis in Nurslings. R. Peters.—In 11 cases Peters has observed a sudden paralysis appear in infants of 2 to 3 months, indicating a lesion in the spinal cord with the brain intact. The paralysis affected the upper or lower limbs, or both, and was usually accompanied by a characteristic attitude of the hands resembling the position of the flippers of a seal, only more extreme. The forearm was in marked pronation, the back of the hands turned inward and the palms outward, the joint flexed and adducted to the body. He calls this the "Flossenstellung," or flipper position, and observes that it was prominent in 9 of his 11 cases. In 4 there were other manifestations of inherited syphilis and in 5 the parental history was suspicious, but in 2 there was absolutely nothing in either parents or children to suggest syphilis, and yet all recovered almost immediately after the institution of specific treatment. All the symptoms indicated the peripheral nature of the affection, and he suggests, as a plausible assumption, the possibility of a syphilitic arterial affection with disseminated foci of softening and eventual induration, a condition analogous to that described by Charcot, in adults, as *état tigré*. Inunctions of gray ointment were borne well by the children and the cure was complete with ten on an average, although a few required as many as thirty. Calomel and potassium iodid were administered to the mother at the same time. The daily dose of .5 gram of gray ointment for ten days was rubbed into one child in one day by a mistake, but he experienced no ill effects and recovered with unusual rapidity. Improvement was usually marked after three inunctions.

Muenchener Med. Wochenschrift, March 26.

Experimental Production of Cirrhosis of the Liver. Marckwald.—Frequent injections of small amounts of antipyrin in frogs, rabbits, etc., induced cirrhosis of the liver as the reaction of the organism to a primary destruction of the liver cells. Injections of large amounts caused acute destruction of the organ. Comparing this action of antipyrin with that of other agents which we know cause cirrhosis of the liver, and comparing the anatomic findings with those observed in the human cirrhotic liver, it seems reasonable to assume that alcohol or any agent capable of causing the destruction of the liver cells, induces cirrhosis of the organ in case of chronic action unless the latter is prevented by some obstacle outside of the liver.

Natural Immunization of Tuberculous Families. A. Reibmayr.—Bacterial and malarial diseases confer in time more or less immunity which is not restricted to one generation but may be inherited by succeeding generations. This law applies also to chronic affections like tuberculosis, and the genealogic study of tuberculosis is, Reibmayr thinks, the surest way to throw light on obscure problems. He points out the changes in the constitution observed in families who have struggled with tuberculosis for generations, and states that the prophylaxis of the disease should be sought in the maintenance of the fund of immunity derived by inheritance from preceding generations and the increase of this resistance by hygienic and other measures.

April 2.

Childbirth with Deformed Pelvis. W. Albert.—The principles of the treatment of childbirth in a narrow pelvis are summarized by Albert as follows: In case of primiparæ with a conjugata vera of 7 to 9.5 cm., a spontaneous birth should be anticipated and promoted; with multiparæ, version should be done, bearing in mind the possibility of a spontaneous birth. The colpeurynter is especially valuable in this group of cases, and with the bag of waters intact, affords the most favorable conditions for success. If the waters have escaped, the colpeurynter can be introduced inside the uterus and its tube used for traction. As soon as the fingers can reach the fetal mouth, the position of the woman is changed from the dorsal with flexed limbs, to the Walcher position with limbs pendent. One writer claims that the results for the children have proved successful in 20 per cent. more cases than before the introduction of the Walcher position into practice. Multiparæ are treated the same, unless the head refuses to come down after the cervix is fully dilated, in which case version and immediate extraction follow. These principles have been the guide at the Dresden clinics and 81.3 per cent. of the children were dismissed living; only 1 of the 60 patients treated with version and extraction according to these rules died. There was a rupture of the uterus in this fatal case. Chrobak has reported 6 deaths in 133 women treated by version and extraction, with only 48.9 per cent. living children. Braun-Herzfeld reports 2 deaths in 89 patients thus treated, with 70.7 per cent. living children. Leopold and Rosenthal report 2 deaths in 102 cases, with 68.4 living children, and Leopold and Loehmann, 3 deaths in 70 cases, with 64 per cent. living children. The statistics at Dresden are therefore more favorable than any of the others in respect to both mothers and children. The colpeurynter protects or after rupture substitutes the bag of waters.

Manipulative Treatment of Congenital Luxation of the Hip-Joint. C. Ghillini.—The aim sought is to bring the head of the femur into the spot where the socket ought to and would be in normal conditions. If the head is pushed up beyond it, the femur is twisted into exaggerated abduction. If it is below the proper point, it is twisted in adduction; if pushed forward, it is twisted inward, and outward if pushed backward. In more than a hundred cases thus treated, many of them bilateral, the results have been very satisfactory. The head of the femur is maintained for six months to a year in contact with the spot where the normal acetabulum should be, and the result is the formation of a new joint. It does not anatomically resemble a normal joint but has the same functions.

Queries and Minor Notes.

SECRETARY OF OREGON BOARD.

Detroit, Mich., April 9, 1901.

To the Editor:—Please give me the name and address of the Secretary of the State Board of Medical Examiners of Oregon.

R. P.

Ans.—Dr. Byron E. Miller, 401 Dekum Bldg., Portland, Ore.

STATES NOT REQUIRING EXAMINATIONS.

Utica, N. Y., April 14, 1901.

To the Editor:—Will you kindly inform me what states do not equire examination for practicing medicine, simply registering a iploma from a recognized school in good standing. "M. D."

Ans.—This question was answered in The Journal of April 13, . 1081.

U. S. MEDICAL SCHOOLS.

Pine Bluff, Ark., April 2, 1901.

To the Editor:—Will you kindly inform me where I can procure a list of recognized, reputable medical schools in the United States?

A. C. J.

Ans.—Write to Dr. Bayard Holmes, of this city, Secretary of the Association of American Medical Colleges, 103 State St., Chicago, and to Dr. Chr. Tompkins, Richmond, Va., Secretary of the Southern Medical College Association, for the information required.

SCHOOLS FOR THE FEEBLE-MINDED.

Evanston, Ill., April 19, 1901.

To the Editor:—Will you kindly give me information as to, or recommend, some school for the care of the feeble-minded, not necessarily in, but easily accessible to Chicago? N. J.

Ans.—See The Journal of April 13, p. 1081. There is such a school at Kalamazoo, Mich., under the management of Dr. C. T. Wilbur, *formerly* superintendent of the Illinois State Asylum for the Feeble-Minded; also one at Godfrey, Ill., known as the "Beverly Farm" Home and School for the Feeble-Minded, Dr. W. H. C. Smith, superintendent.

PHYSICIANS AND THE AUTOMOBILE.

Philadelphia, April 8, 1901.

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4 minims and combined with it tincture of chlorid or iron, his only reason for reducing the dose being "to take time to deliberate as to the further course I should pursue in the case." We are told that there was a gradual gain in the patient's weight and strength and a diminution in the size of the tumor. In the end this tumor could not be felt and the writer, after speculating as to the manner in which the drug had caused the cancer to disappear, concluded that the action of the remedy is not only local but constitutional, and "it will prove efficacious in all cases of carcinoma wherever situated."

We laugh at the absurdity of the whole thing. We condescendingly pity the credulity, if nothing more, of the author; we are indignant that such stuff could even pretend to pass as medical literature; in disgust we toss this travesty on science into the waste-basket. And then as we pick up an article recently received for publication, and as we read it it dawns upon us that even in this paper before us are examples of conclusions based on a limited experience, of bold statements made with no consulting of authorities, of superficial observations, of misrepresentation of facts, of sweeping generalizations utterly unwarranted by the phenomena described, of strangely illogical processes of reasoning, and yet we find that the author of this article is not an obscure, humble country practitioner, but a man well known, a voluminous writer who appends titles to his name and assumes to be a leader of young physicians, for he is a professor in a medical college. With a more tender charity we pick the pamphlet from the waste-basket and place it on the shelf of curiosities to repose side by side with the one which tells of the condurango cure for cancer, of Bergeon's, and hundreds of other cures for tuberculosis, of the cure of all chronic ailments by operation on the rectum, of elaborate descriptions of microbes which turned out to be something else or nothing at all, merely artefacts, of the multitudinous operations on women for the relief of fancied or real aches and pains, and we say to ourselves as we squeeze the little booklet in between two ponderous volumes each with a well-known name upon its back: No, rural colleague, your sin is as much less than theirs, as your volume is smaller, your influence less far-reaching and your faults more glaringly manifest."

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., April 4 to 10, 1901, inclusive:

Charles B. Ewing, captain and asst.-surgeon, U. S. A., now on duty at the Santa Mesa Hospital, Manila, P. I., is detailed as a member of the board to investigate tropical diseases.

Charles W. Farr, lieutenant and asst.-surgeon, U. S. A., recently appointed, from Elmira, N. Y., to Fort Reno, Okla., for post duty.

Francis M. McCallum, captain and asst.-surgeon, Vols., from Fort Reno, Okla., to San Francisco, Cal., en route for service in the Division of the Philippines.

George J. Newgarden, captain and asst.-surgeon, U. S. A., on the expiration of his present leave of absence, will proceed to Fort Mason, Cal., for post duty.

Navy Changes.

Changes in Medical Corps of the Navy for the week ending April 13, 1901:

Medical Director W. K. Scofield, detached from special duty at Philadelphia, April 27, and ordered home to wait orders.

Medical Director W. G. Farwell, detached from the Philadelphia Navy Yard, and ordered to duty in Philadelphia, special.

Surgeon C. Biddle, ordered to the Philadelphia Navy Yard, April 27, as relief of Dr. Farwell.

Surgeon S. H. Griffith, ordered to duty at the Pan-American Exposition, Buffalo, April 25, in charge of exhibit of Bureau of Medicine and Surgery, Navy Department.

Asst.-Surgeon R. B. Williams, detached from Pensacola Navy Yard, and ordered to Key West Naval Station, with temporary duty at Dry Tortugas.

Medical Inspector J. R. Waggoner, detached from Naval Hospital, Cavite, and ordered to Mare Island Hospital, having been condemned by a medical board of survey.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 14 days ended April 11, 1901:

Surgeon C. E. Banks, granted leave of absence for six days from April 15.

Surgeon J. J. Kinyoun, relieved from duty at San Francisco, Quarantine, and directed to proceed to Detroit, Mich., and assume command of the service. Granted leave of absence for fifteen days.

Surgeon T. B. Perry, department letter of March 2, 1901, granting Surgeon Perry leave of absence for thirty days, amended so that said leave shall be for 20 days.

P. A. Surgeon J. B. Greene, relieved from duty at Berlin, Germany, and directed to proceed to Washington, D. C.

P. A. Surgeon L. E. Cofer, designated as chief quarantine officer of the Territory of Hawaii, relieving Surgeon D. A. Carmichael.

Asst. Surgeon Hill Hastings, to proceed to Santa Barbara, Cal., for special temporary duty.

Asst.-Surgeon C. H. Lavinder, bureau telegram, granting Asst.-Surgeon Lavinder leave of absence for ten days, amended so that said leave shall begin April 1, instead of March 27.

Asst.-Surgeon S. B. Grubbs, granted leave of absence for seven days. Upon expiration of leave, to proceed to Washington, D. C., and report at Bureau for duty.

Asst.-Surgeon L. L. Lumsden, upon departure of Surgeon J. J. Kinyoun, to assume temporary command of San Francisco quarantine station.

Asst.-Surgeon Edward Francis, to proceed to New York, and report to medical officer in command, Immigration Depot, for duty.

A. A. Surgeon G. H. Altree, granted leave of absence for four days from April 10.

Hospital Steward and Chemist Henry Gahn, to assume temporary charge of Purveying Depot during absence of medical purveyer.

Hospital Steward F. L. Brown, relieved from duty at Boston, Mass., and directed to proceed to Cape Charles quarantine station and report to medical officer in command for duty and assignment to quarters.

Hospital Steward F. H. Peck, to proceed to San Francisco, Cal., for special temporary duty.

PROMOTION.

Asst.-Surgeon H. S. Mathewson promoted and appointed passed-assistant surgeon to rank as such from April 7.

APPOINTMENT.

J. A. Moncure reinstated and appointed acting assistant-surgeon, U. S. Marine Hospital Service, for duty at the Gulf quarantine station.

Surgeon D. A. Carmichael, relieved from duty at Honolulu, T. H., and directed to proceed to San Francisco, Cal.

Surgeon C. T. Peckham, granted 20 days' additional leave of absence on account of sickness.

Asst.-Surgeon Hill Hastings, to proceed to Bakersfield, Cal., for special temporary duty.

Asst.-Surgeon M. J. White, to report to Surgeon J. H. White for duty.

Asst.-Surgeon W. C. Billings, to proceed to San Francisco, Cal., for special temporary duty.

Asst.-Surgeon D. H. Currie, to proceed to San Francisco, Cal., for special temporary duty.

A. A. Surgeon R. S. Primrose, granted leave of absence for five days from March 30.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon General, U. S. Marine-Hospital Service, during the week ended April 12, 1901:

SMALLPOX—UNITED STATES.

California: Los Angeles, March 23-30, 1 case; Oakland, March 16-23, 1 case; San Francisco, March 23-30, 7 cases.

District of Columbia: Washington, March 30-April 6, 2 cases.

Florida: Jacksonville, March 30-April 6, 19 cases.

Illinois: Chicago, March 30-April 6, 9 cases.

Indiana: Evansville, March 23-30, 1 case; Terre Haute, March 18-25, 1 case.

Iowa: Clinton, March 30-April 6, 1 case; Ottumwa, March 16-23, 1 case.

Kansas: Wichita, March 30-April 6, 17 cases.

Kentucky: Lexington, March 30-April 6, 8 cases.

Louisiana: New Orleans, March 30-April 6, 8 cases, 2 deaths; Shreveport, March 23-April 6, 4 cases.

Michigan: Detroit, March 30-April 6, 3 cases; West Bay City, March 30-April 6, 2 cases.

Minnesota: Minneapolis, March 30-April 6, 20 cases.

Nebraska City, March 2-23, 7 cases; South Omaha, April 1-6, 6 cases.

New Hampshire: Manchester, March 30-April 6, 6 cases.

New Jersey: Newark, March 30-April 6, 2 cases.

New York: New York, March 30-April 6, 42 cases, 8 deaths.

Ohio: Cincinnati, March 29-April 6, 3 cases; Cleveland, March 30-April 6, 35 cases, 2 deaths.

Pennsylvania: March 30-April 6, McKeesport, 1 case; Philadelphia, 1 death; Pittsburg, 3 cases; Steelton, 1 case.

Rhode Island: Riverpoint, March 10-April 8, 5 cases.

South Carolina: Charleston, April 2, a few cases.

Tennessee: March 30-April 6, Memphis, 22 cases, 1 death; Nashville, 14 cases.

Utah: Salt Lake City, March 30-April 6, 28 cases.

Virginia: Roanoke, March 1-31, 71 cases, 4 deaths.

West Virginia: Wheeling, April 1-8, 2 cases.

Wisconsin: Green Bay, March 31-April 7, 2 cases.

SMALLPOX—FOREIGN AND INSULAR.

Argentina: Buenos Ayres, Feb. 1-28, 37 cases, 21 deaths.

Austria: Prague, March 8-23, 7 cases.

Belgium: Antwerp, March 8-16, 3 cases, 1 death.

China: Hongkong, Feb. 23-March 2, 9 cases, 7 deaths.

Egypt: Cairo, March 4-11, 1 death.

France: Paris, March 16-23, 6 deaths; St. Etienne, March 1-15, 1 case.

Great Britain: England—Bradford, March 8-23, 3 cases; Liverpool, March 16-23, 2 cases; Southampton, March 16-23, 1 case. Scotland—Glasgow, March 22-29, 11 deaths.

India: Bombay, March 5-12, 10 deaths; Calcutta, March 2-9, 85 deaths; Karachi, March 3-10, 12 cases, 4 deaths; Madras, March 2-8, 11 deaths.

Mexico: Progreso, March 22-29, 8 cases.

Netherlands: Rotterdam, March 23-30, 2 cases.

Russia: Moscow, March 8-16, 4 cases 3 deaths; Odessa, March 8-23, 13 cases, 3 deaths; Warsaw, March 8-16, 9 deaths.

Spain: Malaga, March 1-15, 2 deaths.

Switzerland: Geneva, March 2-9, 1 case.

Philippines: Manila, Feb. 16-23, 1 death.

Porto Rico: Ponce, from beginning of epidemic to March 15, 132 *cases.*

YELLOW FEVER.

Costa Rica: Port Limon, April 6, 1 case.

CHOLERA.

China: Hongkong, Feb. 23-March 2, 6 deaths.

India: Bombay, March 5-12, 4 deaths; Calcutta, March 2-9, 26 deaths.

Straits Settlements: Singapore, Feb. 2-23, 1 death.

PLAGUE—FOREIGN AND INSULAR.

China: Hongkong, Feb. 23-March 2, 7 cases, 6 deaths.

India: Bombay, March 5-12, 1,196 deaths. Calcutta, March 2-9, 537 *deaths.*

Philippines: Manila, Feb. 16-23, 7 cases, 6 deaths.

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Original Articles.

THE GYROMELE IN THE DIAGNOSIS OF STOMACH AND INTESTINAL DISEASES.*

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CHICAGO.

The gyromele (revolving sound) is a flexible steel cable, terminating in a more flexible steel spiral end. This spiral end is provided with a metallic pellet, and covered by a sponge, lamb's wool or cotton. The sound is fastened in a revolving apparatus—not unlike a surgeon's drill. After introduction into an accessible cavity of the body, if the revolving apparatus is put in motion, the rotations of the cable cause vibrations of varying degree which, being transmitted through the tissues, are perceived externally by means of auscultation and palpation.[1]

Cables of different caliber and length have been devised in order to obtain cables of different degrees of flexibility and elasticity, which considerably broadens the scope of usefulness of the gyromele, especially for diagnostic purposes.[4] But it is not only the extraordinary adaptability, flexibility and elasticity which enable the instrument to enter cavities hitherto inaccessible, but the rotary motion adds greatly to the safety and facility of the use of the gyromele sound.

Since the delicate rotations gently wend their way through any possible narrowing, and these rotations can be followed externally by the auscultating ear or the palpating finger, we are enabled to gain valuable information of cavities which were formerly inaccessible. This information is limited not alone to anatomical data, as situation, extension, capacity, etc., of the sounded cavities, but by means of specially constructed gyromele sounds we may obtain valuable data as to the contents of these cavities, adherent masses of mucus, bacteria, etc. Thus, I have been able to remove, by these means, bacteria from different regions of the stomach, and make extensive studies of the normal and pathologic flora of this organ.[3, 4, 5, 6, 11, 14, 18] The following cavities have been explored successfully with the gyromele: Nose and throat; esophagus; stomach; pylorus and small intestine; colon; bladder; uterus; thoracic cavity; false cavities of various character.

Various attempts had been made before the year 1894 to sound the stomach. Exploration with the stomach-tube for sounding the stomach was not successful, as no means of locating the tube within the stomach, such as by palpation, were presented, and, therefore, Leube attempted to locate the great curvature of the stomach by pushing in a stiff sound. Ewald ("Diseases of the Stomach," Am. Trans., 1892) shows the impossibility of locating the curvature of the stomach by using the stiff sound, in the following language: "A stiff sound is introduced into the stomach until it meets with resistance, as far as is feasible, without the employment of undue force. If, now, the sound can be palpated below the level of the umbilicus, dilatation of the stomach is proved to exist. This method has been objected to on the ground that it is dangerous, and that it is frequently impossible to feel the tip of the sound. Leube has rejected both objections, and, so far as the former (danger) is concerned, I fully agree with him. Feeling the point of the sound through the abdominal wall is an entirely different matter. It is most frequently utterly impossible to feel the sound distinctly, even if we go over the whole abdomen as carefully as we can, palpating one square inch after another. Further, we must remember that the stomach is not infrequently in a vertical position, etc. For all these reasons, palpation with the sound will only give uncertain results."

As sounding the stomach with a stiff sound was proved to be both impossible and impractical for diagnostic purposes, the method was abandoned. No other attempts appear in literature of the use of the gastric sound for diagnostic purposes, until the publication of my method (1894) of using a revolving flexible sound, which is not only an advance of all other methods, but is based upon a different principle:[1]

1. The flexibility of the sound is of such a degree as to adapt itself accurately to the situs, shape and size of the organ.
2. By means of the revolving apparatus (drill) to which the sound is attached, vibrations are produced which can be palpated and auscultated externally, thus giving us exact information of the presence and locations of the revolving cable.
3. The situation of the metal sound can also be verified *intra vitam* by means of the *x*-rays. The fluoroscope and the skiagraph give excellent results.
4. Percussion of the inflated stomach is rendered more facile and exact when the border-line of the stomach has been established beyond doubt, by means of the introduced cable. Only then are we enabled to distinguish the finer differences of sound between the stomach and the intestine.

ESOPHAGUS.

The difficulty and impossibility of ascertaining the exact position of the cardia, *intra vitam*, has led to methods of determining the length of the esophagus in the living, by means of external, anatomical landmarks. The usual method is to measure from the line of the incisors externally to the xyphoid appendix of the sternum, giving the sound a corresponding curve. Others measure from the incisors along the lobe of the ear to the tenth dorsal vertebra. The following is

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* Presented by invitation at the Exposition of Diagnostic Instruments, in connection with the Congress of Internal Medicine, Berlin, April, 1901.

Rosenheim's method: From the second spinal process along the median line, to the costal articulation of the twelfth thoracic vertebra on the left side. This represents the length of the gullet from the uvula to the cardia; the distance between the uvula and the incisors must be added to the obtained figure (7 cm.).

It seems unnecessary to call special attention to the inaccuracy of these methods. The gyromele is the only instrument which, by the above-mentioned vibrations, makes its presence manifest as soon as it enters the stomach. If the presence of the end of the rotating sound—which is provided with a conical tampon of cotton or sponge—is once ascertained, it is then easy to exactly localize the cardia by gently withdrawing the sound until it meets with slight resistance—the narrowing of the cardiac portion of the esophagus.

The accidents reported in connection with sounding of the esophagus are appalling. These mishaps will be reduced to a minimal number if an instrument is used which combines elasticity, flexibility, with a cushioned extremity, and, when introduced, does not depend on the pushing force, but rather upon the gentle rotary motions, thus wending its way by any partial obstruction which it may encounter, without danger of injury.[1 3 4 7 9]

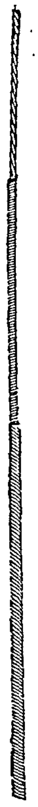

Fig. 1.—Inner structure of the gyromele cable.

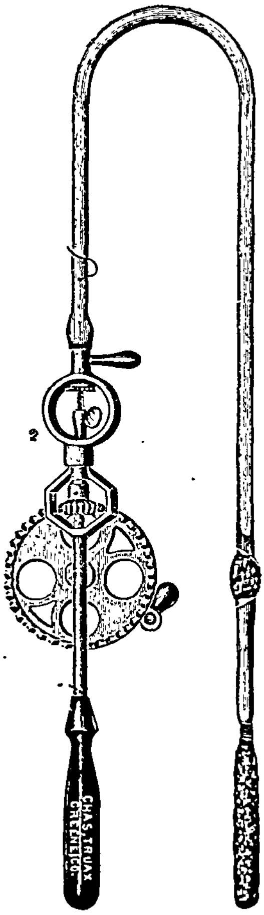

Fig. 2.—Gyromele with the long outer tube.

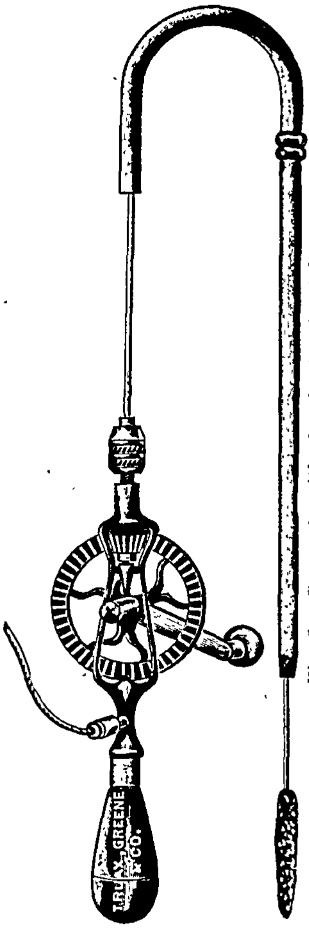

Fig. 3.—Gyromele with the short outer tube.

The gyromele is introduced like the ordinary stomach-tube. The vibrations of the rotating end are palpated as soon as this emerges from behind the ensiform appendix of the sternum; then, as has been described, the sound is withdrawn until the cone-shaped cotton tampon or sponge attached to its end is marked at the point of the incisors by means of a tightly-fitting, movable, rubber ring. The gyromele sound is then completely withdrawn and the distance measured from the rubber ring to the base of the cone-shaped cotton tampon, this being the distance from the incisors of the esophagus.

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STOMACH AND INTESTINES.

For the past eight years I have made extensive use of the gyromele in the exploration of the stomach and intestines, for various diagnostic purposes. In 1893 I first examined and treated a series of interesting cases, proving the accuracy of my methods when combined with the extant methods.[4]

Case 1.—Dec. 5, 1893, J. J., aged 44. Not alone were we enabled to localize the greater curvature 5 cm. below the umbilicus, but it was also possible, by the aid of the gyromele, to diagnose a thickening of the pylorus with absolute certainty.

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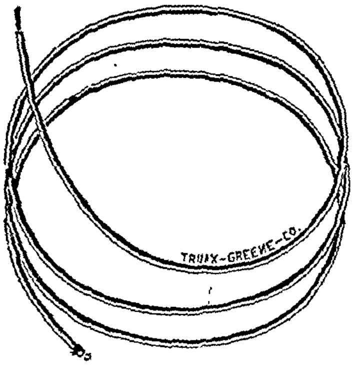

Fig. 4.—Rubber coated metal cable with metal pellet end.

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Dr. Borland and myself have reported on a series of experiments with the gyromele on the cadaver. It must be admitted that the phenomena due to the gyromele are more positively manifest in the living.[30]

During transillumination of the patient with the x-rays, a procedure which I have used since 1896, it could be clearly observed how the sound made its way through the stomach and pylorus into the small intestine.[30]

Case 5, which I demonstrated in London, in 1898, (Demonstrations and Lectures at St. George's Hospital, August 8, 9 and 10) was that of a woman 50 years of age, who had shown stomach symptoms for over a year. The vibrations of the gyromele could be felt through a paper placed upon the abdomen of the patient, and thus an exact drawing of the contour of her stomach could be made. An accurate description of this case is to illustrate the technique of gastric diagnosis by means of the gyromele. The patient manifested all the symptoms of retention of food—frequent vomiting, emaciation, etc.[41]

Aug. 8, 1898, three hours after a test-meal, a very flexible gyromele sound was introduced, the patient being recumbent. Location of the greater curvature was determined through the vibrations of the rotating gyromele, and found to be on the line of the umbilicus, "and by pushing the cable further into the stomach until the revolving sponge impinges against the lesser curvature, we find it located just below the border of the left lobe of the liver. On withdrawing the gyromele and testing the liquid which can be obtained by squeezing the sponge, we find that there is no HCl present in the stomach. The outline and position of the stomach, as thus determined, are shown by the diagram. (Fig. 7a.) . . . . In order to determine the degree of

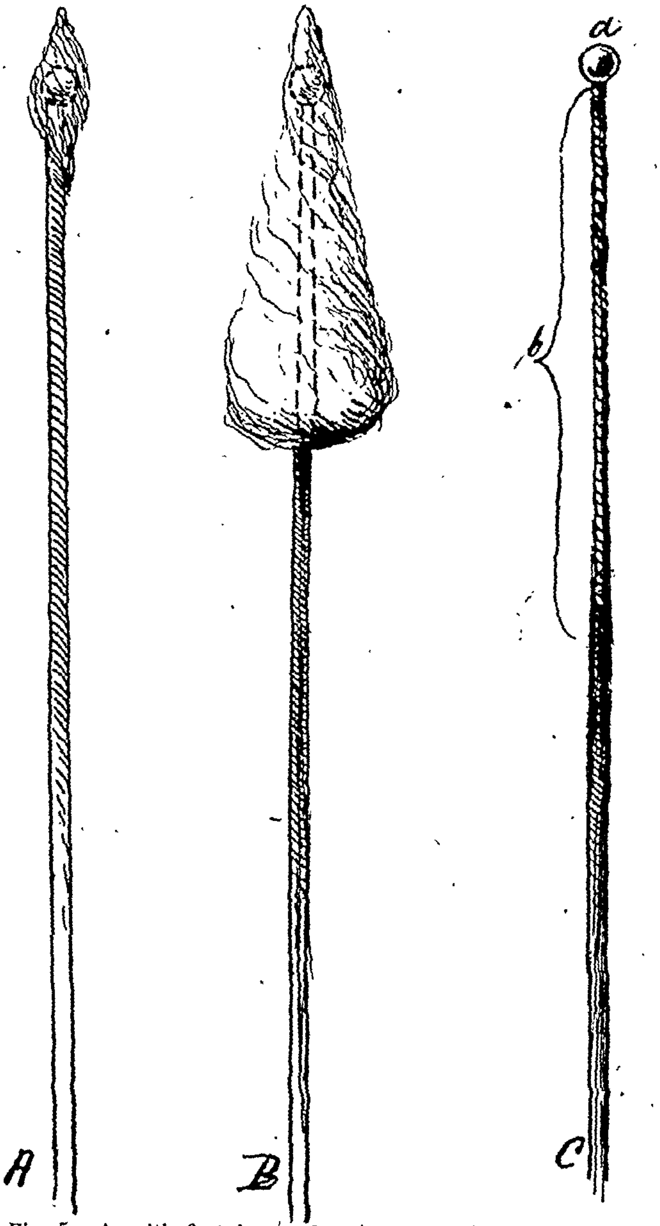

Fig. 5.—A, with first layer of cotton or wool; B, the finished conical cotton tampon (to be covered with rubber); C, the spiral end with metal pellet.

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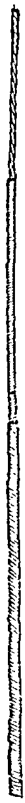

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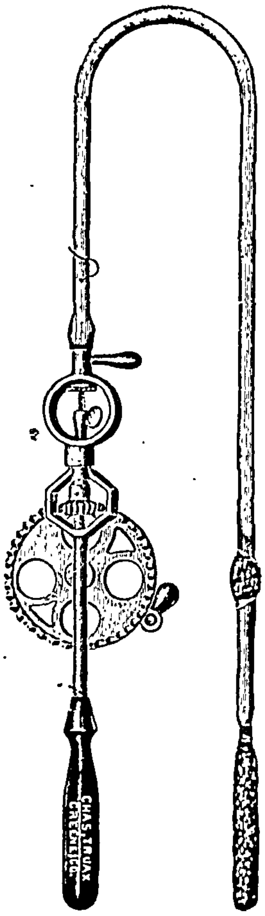

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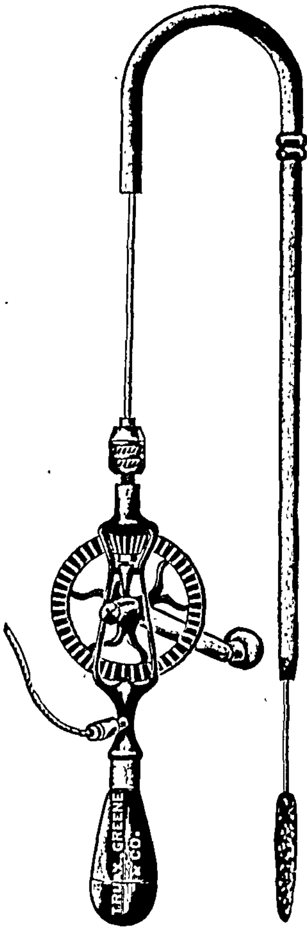

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The cable I have used for special esophageal diagnosis is of medium flexibility (No. 2, about 60 cm. in length). The cable terminates with a more flexible spiral end, which is provided with a metallic pellet, thus affording a means for the attachment of a cone-shaped cotton pledget or sponge. (Fig. 5.) When it is desirable and of advantage, the cushion of cotton or sponge is covered with a thin rubber finger-cot, tied and secured with a fine silk thread. This greatly facilitates the introduction of the cable and renders the same less dangerous than the use of any of the described instruments.

Where greater accuracy is desired, the location of the narrowing at the cricoid cartilage can be ascertained in the same manner with the additional assistance of rotary vibration, which can be easily felt at this point externally.

Where there is a patulous condition of the cardiac orifice, this orifice may not offer sufficient resistance, so the cotton pledget attached to the end of the cable is increased in thickness and the procedure repeated. The attachment of the cotton or wool pledget is an easy procedure: While the cable is being rotated, a small layer of cotton is allowed to wind itself firmly around the pellet of the spiral end of the cable. This forms the apex of the cone. A second larger layer is then placed a little above and overlapping the first layer, forming the base of the cone. More and larger layers of cotton can be added, according to the size of the pledget required.

Attachable cone-shaped sponges may be used instead of cotton pledgets. By covering the cable with a tightly-fitting rubber tube, as described,[10] which is graduated in centimeter scale, the measurements from cardia to incisors can be readily read from the cable.

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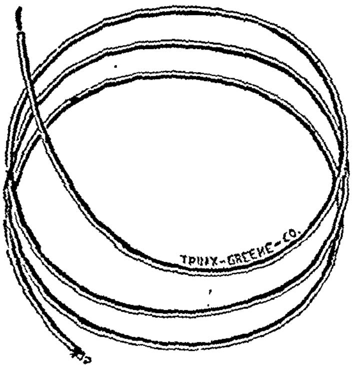

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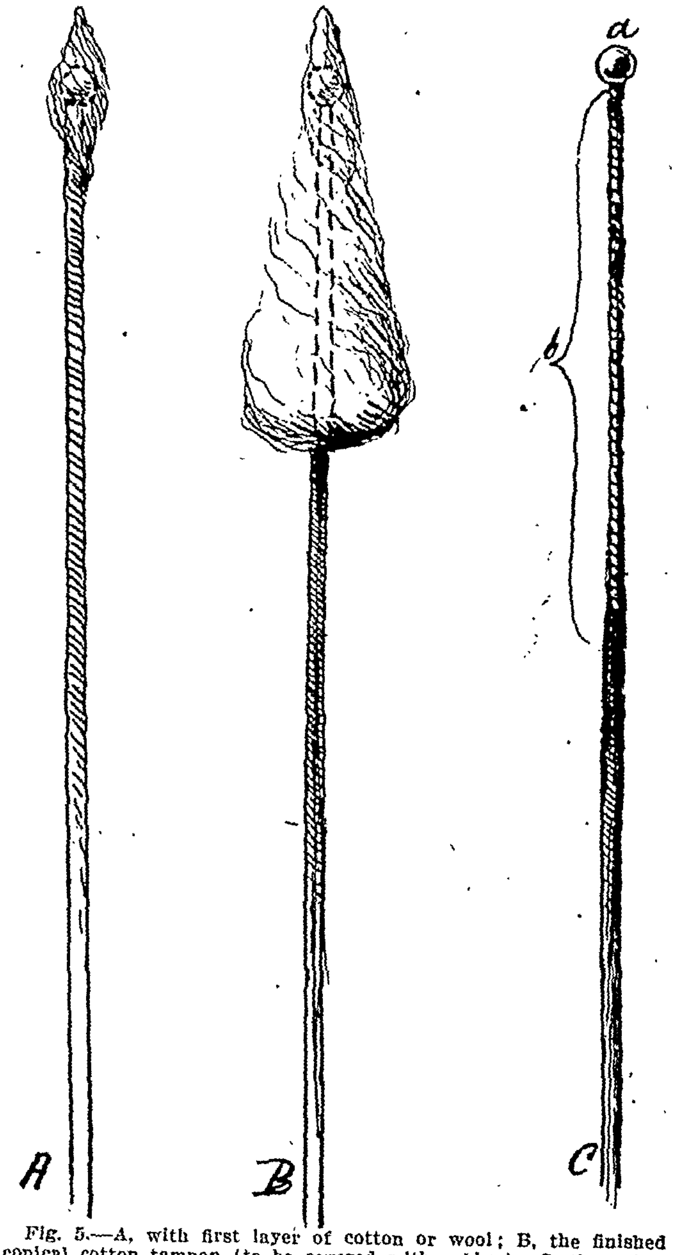

Fig. 5.—A, with first layer of cotton or wool; B, the finished conical cotton tampon (to be covered with rubber); C, the spiral end with metal pellet.

distensibility of the stomach, we now pass in a gyromele having a somewhat *less flexible* cable than the one just used, and again determine the outline of the stomach by palpating the revolving and vibrating sound. This time, with the patient sitting upright, we find the greater curvature below the umbilical line and quite near the hypogastric line, while the lesser curvature can be distinctly outlined just above the epigastric line. As shown in the diagram (Fig. 7b), we find with this second cable that the stomach is only slightly dilated, but that it is a case of marked gastroptosis with very lax ligaments, the stomach being freely movable in its position. The long duodenal cable is next introduced for the purpose of sounding the pylorus. The sound is obstructed as it reaches the pylorus and further pushing only elicits signs of pain. The tip of the revolving sound can easily be recognized and the palpation indicates a hardened and thickened pylorus, but no tumor can be felt."

From the examinations thus made, we arrive at the following diagnosis:

1. Absence of free HCl after various test-meals, together with the failure of the gyromele to produce a secretion of the acid, would indicate atrophy of the glands.

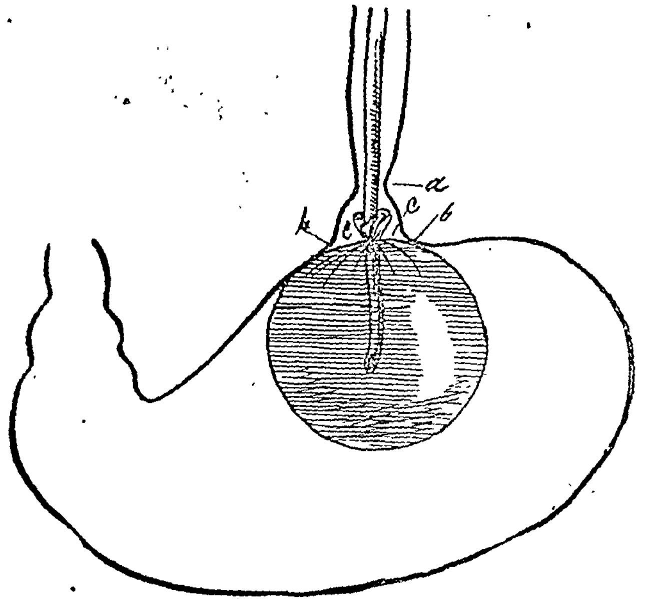

Figure 6.

2. The slight dilatation of the stomach, together with the ease with which the whole viscus can be pushed downward, as shown by the use of cables of different flexibility, indicates the presence of gastroptosis and the thickened walls show hypertrophy.

3. The long retention of food indicates either motor insufficiency due to myasthenia, or pyloric obstruction, and as the duodenal sound indicates a hardened and thickened pylorus, we conclude that this is a case of stenosis pylorica. In view of the fact that the pyloric obstruction, notwithstanding the marked atrophy, is almost complete, I recommend immediate operation.

"(Through the courtesy of Dr. Ewart, the attending physician in charge of the case, the following hospital report has been received:) Operation was performed by Mr. Jaffrey on August 17. No outlying mass of cancer or glands could be felt. The stomach was of *moderate size* with thick muscular walls and *did not reach below the umbilical level. Owing to its dropped state* it could be easily pulled through the incision as well as the pylorus. The pylorus and its vicinity were free from peritoneal adhesions or thickenings. There were a few superficial pyloric venules and minute whitish specks, but no important engorgement. The gall bladder was greatly distended with bile. *Marked thickenings could be felt* not only *at the pylorus*, but in one inch or two inches along the duodenum and two inches or three inches along the lesser curvature. This decided Mr. Jaffrey to prefer gastro-jejunostomy to pyloroplasty, and this was accordingly performed with satisfactory results, the patient doing well for two days. On the third day she began to vomit. Exhaustion set in on the fourth day, when she died. At the necropsy, no tympanites or peritonitis could be found. The external and the stomach wounds were sound. *The thickening* which had been felt, was found to be almost entirely muscular, traversed from within by a few fibers from a thin radiating deposit with white fibrous tissue in the submucous layer. In connection with this, the mucous membrane at the pylorus and for one inch beyond, was atrophied, glistening and striated.

"There appeared to be nothing in the case, judging from these appearances, incompatible with complete recovery from the gastric dilatation, as well as the *gastroptosis*, had the patient's strength been equal to the surgical ordeal. The case tends to show how slight may be the impediment which leads to these fatal results."[41]

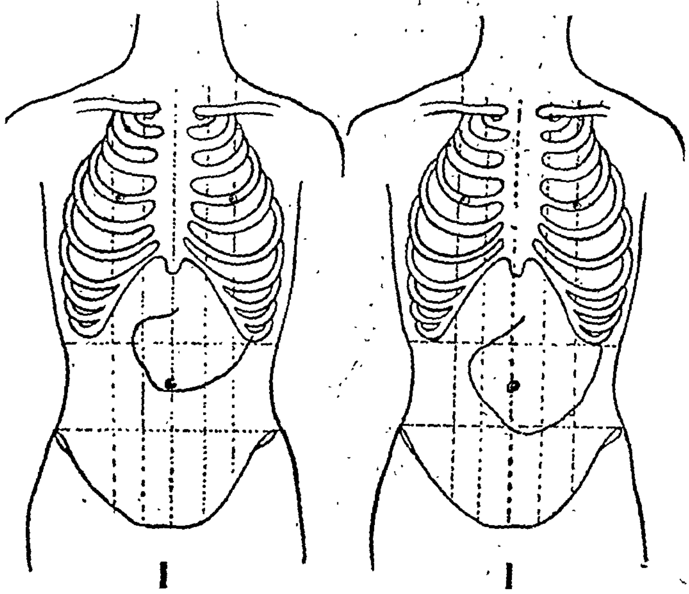

Fig. 7A.—The outline of stomach as given by the movements of the light flexible cable.

Fig. 7B.—The outline given by the movements of the less flexible cable.

THE GASTRIC MUCOSA.

The examination of stomach contents obtained by use of the gastric tube marked an epoch in the diagnosis of diseases of the stomach and intestines. The stomach contents inform us of normal and pathologic secretion, and food remnants contained in the contents give information as to the approximate degree of the motility of the stomach. Material lying freely in the cavity of the stomach is easily removed by means of the ordinary tube; the mucus adherent to the walls of the stomach in pathological conditions is only obtained with greater difficulty, if at all, in the ordinary methods. Beaumont has demonstrated the presence of this adherent mucus in the person of St. Martin. He found it particularly in "catarrhal" inflammations of the stomach.

Ewald *(Loc. cit.)* recommends lavage of the stomach for the purpose of "loosening the mucus which adheres to its walls, partly chemically and partly mechanically," but, as stated, this was advised for therapeutic purposes.

Boas (I. Boas zur [illegible] Magen-katarrhs und [illegible], *Münch. Med. Wochenschrift,* 1887, No. 42.) differentiated between the mucous form and the atrophic form of gastritis, which was a decided step in advance.

membrane is coated by the adhering and tenacious mucus, associated with pathologic changes in the mucosa.

Hemmeter[34] (p. 394) states: "The epithelial surface is in the various forms of gastritis, covered with a tough, glassy mucus, epithelial detritus, and sometimes pus."

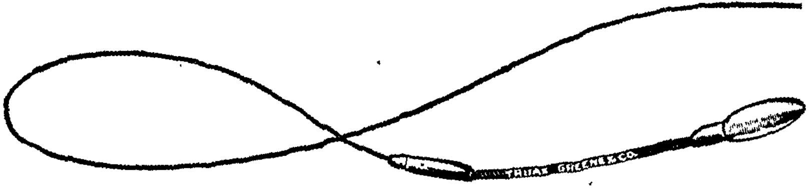

Fig. 8.—Duodenal sound with spiral end.

Einhorn (Dis. of the Stomach, N. Y., 1896), in his description of pathologic anatomy of chronic gastritis, states: "The mucosa is usually covered with a thick layer of tenacious mucus, presenting a yellowish-gray or slate color," but this refers more to the pathologic findings postmortem, and mention is not made of this as a diagnostic feature during life. Only the stringy mucus that is free in the gastric cavity and found on removal of the stomach contents by the tube, is considered; when mucus is not found in the gastric contents, it is differentiated as one of the other forms. The former condition is termed "gastritis chronica mucosa."

I reported an interesting case in 1893, of a man who suffered from periodic attacks of great flow, not of gastric juice, but glairy mucus. Between attacks but little mucus could be found. Many of the cases where mucus is found free in the cavity may be due to neuroses and other general conditions. (*North American Practitioner,* May, 1893.)

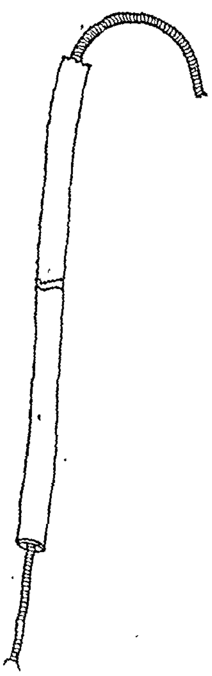

Fig. 9.—Duodenal sound before introduction.

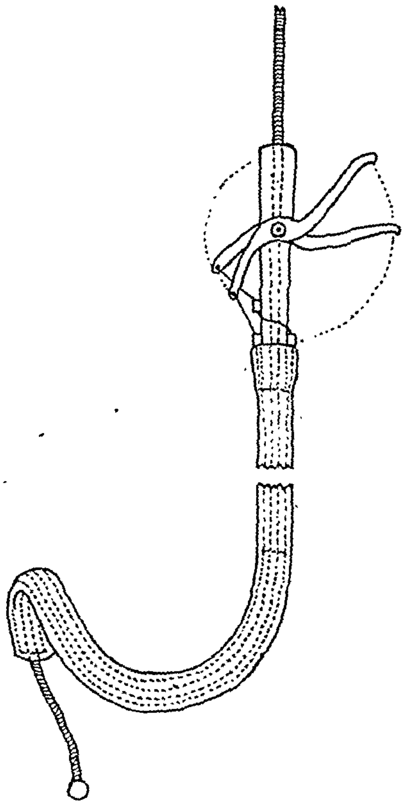

Fig. 10.—Duodenal sound after introduction with silk threads drawn taut.

Leube. Penzoldt, Riegel and others have recognized, chiefly by the postmortem findings, that the mucous

It must be admitted that the question whether material removed from the stomach and consisting of mucus, food remnants, epithelia, leucocytes and bacteria had been lying loosely in the stomach or had adhered to its walls, is extremely hard to answer, if possible at all, but it is of the greatest diagnostic [illegible] like importance is the determination [illegible] area of the stomach mucous membrane from which the material was derived. The diagnostic significance is not confined to the cellular elements and food detritus contained in the tough mucus, but a study of the nutritive variations of the culture-media will often determine the character or grade of infection. I have rarely been able, even by the prolonged use of the gastric needle douche under considerable pressure, to wash off the mucus covering the stomach wall. If, however, the fasting stomach is first thoroughly douched until the cavity is free from material, and the waste water runs off clear, and then the flexible, revolving sound is introduced and rotated, the adherent mucus masses are gently loosened and brought out. The region from which it is desired to remove this material can be readily determined by external palpation of the revolving sound

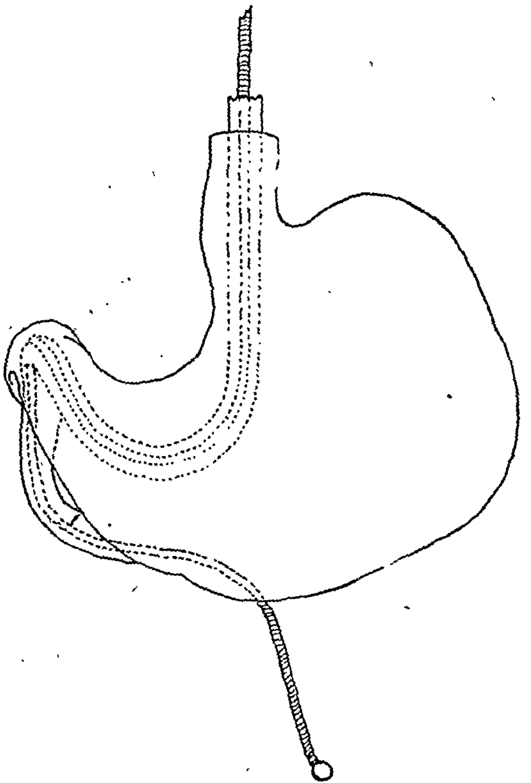

Fig. 11.—Duodenal sound in situ.

within the stomach. Before the revolutions of the sound can be felt externally, it is necessary that the end of the sound must have come in close contact with the mucous membrane from which the mucus is removed and found upon withdrawal of the instrument. The material thus obtained can then be used for examination. If it is desired to obtain material directly from a certain region of the stomach—for instance from the fundus, or greater or lesser curvature—the gyromele sound is introduced through a double stomach-tube. The cable passes through the wider tube while a strong silk thread is passed through the narrow tube. The thread is attached to the end of the longer tube which carries the cable. Upon traction of this silk thread, the cable can be directed to any selected area. By these methods we are enabled to make extensive chemic, microscopic, and bacteriologic studies of the stomach. I have used these methods constantly and successfully in my private clinic.[1 3 4 5 6 14 18]

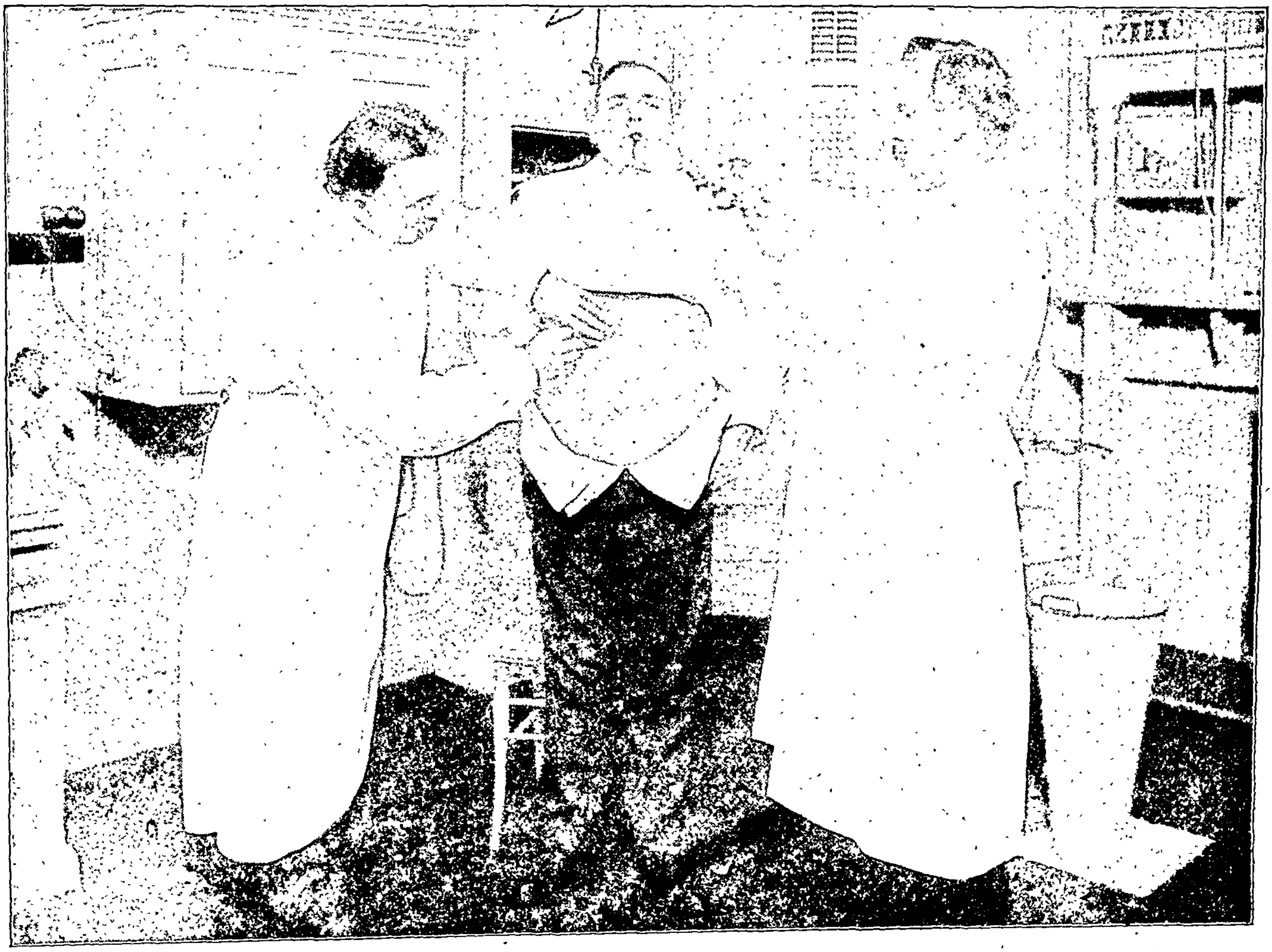

Fig. 12.—Palpation of the vibrations of the rotating cable within the stomach and outlining the contour upon the abdominal wall. (From the author's private clinic.)

PYLORUS AND DUODENUM.

In sounding the pylorus and duodenum with the gyromele, a more flexible cable is used, which terminates in an exceedingly flexible and elastic steel spiral. (Descriptions of the apparatus and its use were published in 1894 and 1895.)[1 2 3 4 8 9 14] The object of the spiral end is to give the sound greater adaptability, combined with a certain degree of resiliency. These qualities enable the sound to more easily adapt itself to the anatomical conditions, which is very desirable, especially since these conditions vary greatly in different individuals. However, before the sounding of the pylorus is proceeded with, the situation, size, distensibility, etc., of the stomach must be correctly determined. Inflation of the stomach with air greatly facilitates the sounding, because the end of the sound glides more easily along the distended than the collapsed walls. The sound having passed the pylorus, the air is allowed to escape from the stomach and this organ resumes its former shape. When the sound turns through the antrum pyloricum toward the lesser curvature, a procedure which can be palpated externally, it is withdrawn slightly, whereupon the end of the sound enters the antrum. The rotations of the cable are continued while the sound is cautiously pushed forward, and the latter can then be palpated, having assumed the S-shaped curve of the duodenum. At this time it is possible to aspirate the duodenal contents through the cable tube, which convinces of the presence of the end of the sound in the duodenum. Transillumination with the *x*-rays, gives very instructive and convincing pictures.

Instead of the simple rubber tube, the above-described double tube with the silk thread directing the end of the sound can be used. I have also devised an instrument in which the silk thread is in the same tube with the cable. (Figs. 7 and 8.) Upon traction of this thread, after the sound has reached the greater curvature, a double curve of the sound is effected, which directs its end with ease into the pylorus. (Fig. 10.) Not all cases require duodenal sounding, but in many of them this exploration is not only of value, but indispensable for differential diagnosis, as the following cases will illustrate:

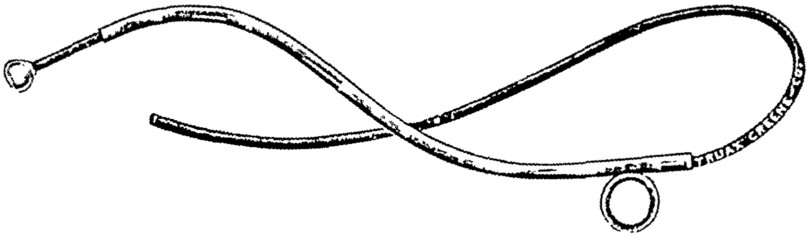

Fig. 13.—Colon sound.

Case 6.—Dec. 5, 1893, J. J. O'C., was sent to me with a diagnosis of carcinoma of the pylorus. The general symptoms of this disease were more or less evident. Thorough sounding of the pylorus and palpation combined therewith excluded a carcinomatous affection of this organ. After a comparatively short treatment, the patient gained more than 10 kgs. This patient has not shown any gastric symptoms since 1894.[4]

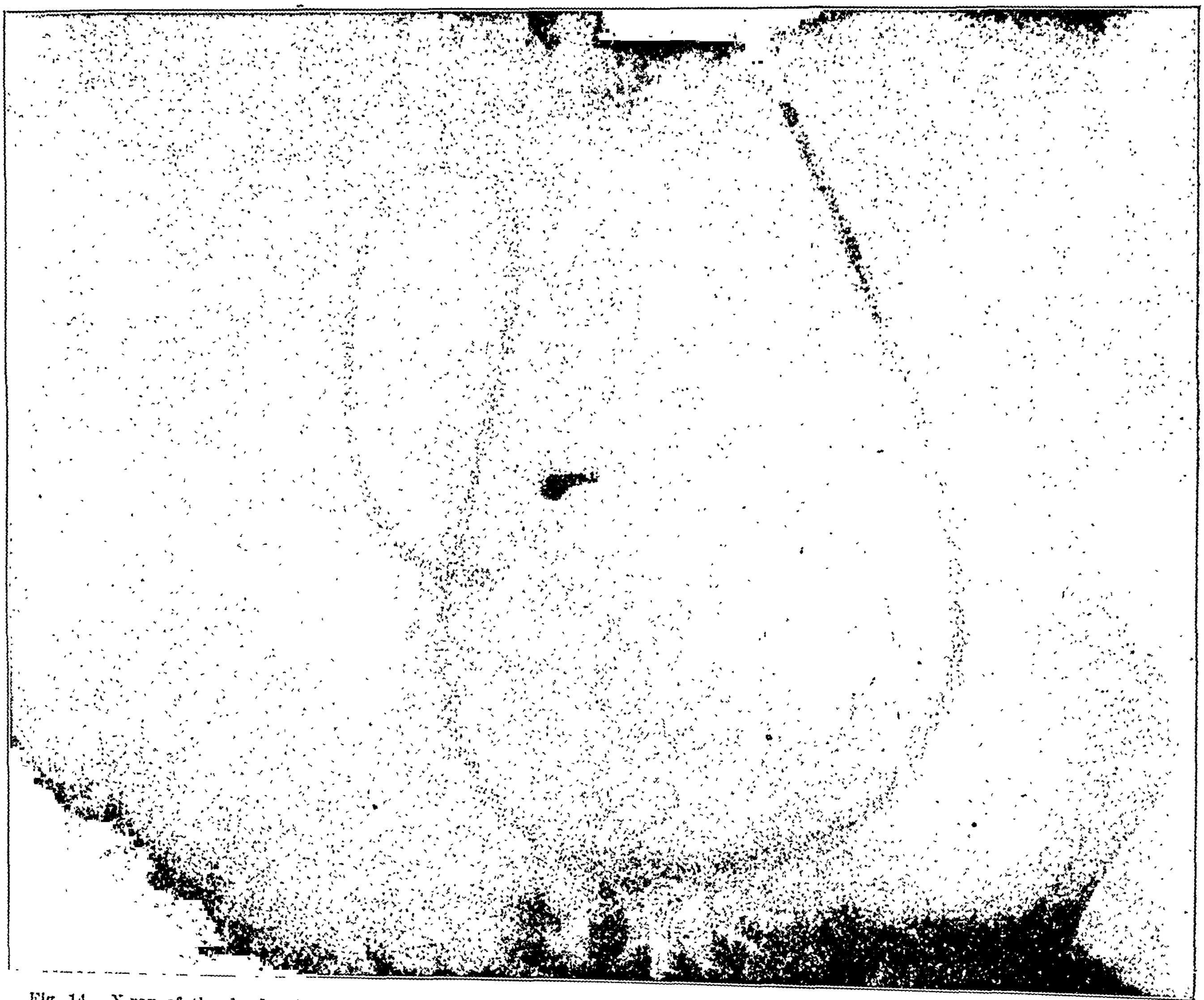

Fig. 14.—X-ray of the duodenal sound in situ. The stomach is enormously dilated and markedly myasthenic, which accounts for the extraordinary excursion of the stiff cable, and the stomach is thereby displaced to the left.

Case 7.—Another case is that of Dr. C. L. C., who was sent to me with a suspected stenosis of the pylorus, by Dr. Murphy. There existed in this patient an enormous dilatation of the stomach, great emaciation and debility; weight 54 kg. Sounding of the pylorus by means of the gyromele revealed a patulous, easily passable pylorus and no duodenal obstruction. The x-rays confirmed these findings. The patient was treated for myasthenia, and had gained 14 kg. at the end of six weeks. The last reports confirmed the diagnosis.

TECHNIQUE.

The technique of sounding by means of the gyromele is simple and easy. The cable is introduced in almost the same manner as the ordinary stomach-tube. Some experience is required to locate the fundus, greater curvature, pylorus and lesser curvature with certainty, but even the inexperienced find the introduction of the thin cable, covered with rubber tube the thickness of which reaches at the most 5 to 6 mm., and armed with the soft cotton tampon or sponge, easier than the introduction of the thicker and flabby stomach-tube. This is particularly the case with patients unused to intragastric methods. The steel sound serves here the same purpose as the formerly much-used "mandrine" of the Germans, but because of its greater flexibility and elasticity, it conforms more easily to any intervening curves.

The rotating cable is covered the distance from mouth to cardia with a rubber tube. In this tube, the cable moves freely, and thus little friction is caused. Since this surrounding rubber tube remains stationary, a pushing to and fro of the cable is unnoticed by the patient. As soon as the tampon on the end of the cable has reached the greater curvature, *it meets slight resistance,* the cable bends, and the end glides along the greater curvature until at the antrum *pyloricum,* or lesser curvature, it again meets resistance. Now, the stomach is moderately inflated with air and the cable pushed slowly forward; its end now turns—as has been observed by the *x*-rays—toward the left and upward along the lesser curvature. Thus the cable is seen to describe an irregular circle, influenced by the contour of the stomach. Pushing the cable still farther into the inflated stomach, it will bend into the fundus, there adapting itself to the dome thereof. All of these phenomena can be observed with as much certainty by external palpation and auscultation of the rotating cable end, as with the *x*-ray. This holds true, even of those parts which are covered by the left lobe of the liver or by the ribs. (Fig. 12.) By following the rotations of the cable end with a skin pencil the contours of the stomach are drawn upon the abdominal surface. In lean individuals the rotations may be perceived by inspection; in fat subjects, it is advisable to put the cable in more accelerated motion, in order to palpate the rotations. Variations in diameter of the stomach walls influence the degree of the vibrations considerably, and I have been often able to convince myself of this fact postmortem, as reported. Determination of the various grades of thickness, tension and tonus of the gastric walls is arrived at by sounding with cables of various strengths. The observed curves of distention give, in comparison with each other, the desired information.

In sounding the sigmoid flexure through the rectum, different circumstances had to be considered, and for this purpose a modification of the gyromele was required. (Fig. 1.) The technique of sounding is similar to that *of sounding the stomach and duodenum. It is therefore* unnecessary to dwell especially on the sounding of the *colon, and hence, I only mention it here.*

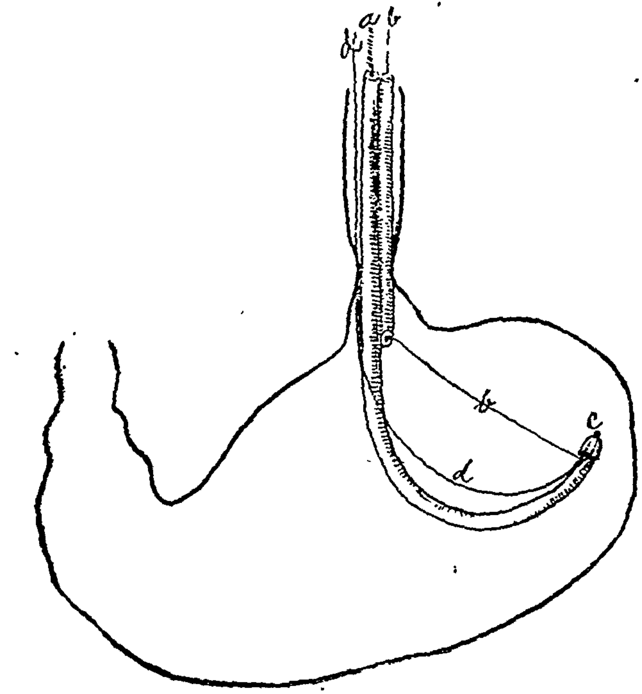

Figure 15.

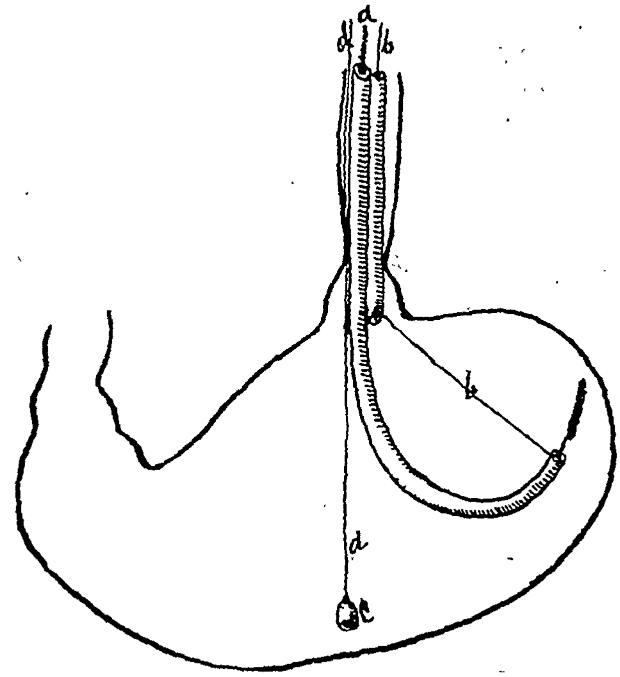

Figure 16.

X-RAYS.

By the use of the *x*-rays for transillumination of the body, *diagnosis by means of the gyromele cable combined with palpation* is made more certain and easy. The first attempts to observe the introduced sound *in situ, with the aid of the x-rays,* were made by me in the spring of 1896. The degree of density of the steel *sound is seen to interrupt the rays and give a distinct* contour of the sound. In May, 1897, I demonstrated the transillumination of the body with the sound introduced and put in motion, before the Illinois State Medical Society,[30] and I have since repeatedly called attention to the importance of this procedure. Different substances contained in stomach and other rubber tubes, as mercury, bismuth salt emulsion, etc., have been used with the intention of making the contours visible during transillumination with the *x*-rays. The visibility and accuracy of these contours, obtained after introduction of my steel cable, can be observed in the accompanying half-tone illustration. The clearness of the picture has been somewhat impaired by its reproduction. The solid cable is plainly visible as a sharp line, while the hollow spiral end is represented by a more indistinct shadow; *in fat and old individuals it* is often impossible to distinguish the spiral at all. It is extremely interesting to observe the excurisions of the rotating cable with the aid of the *x*-rays or the entrance of the end of the cable into the *pylorus* or *duodenum. I have often found the borders of the stom-*ach, previously marked by lead roll fastened upon the abdomen, confirmed by transillumination. The ensiform appendix and umbilicus were marked with metal buttons, and their position was also confirmed.

Measurements were made by graduating the cable with lead shot. All those experienced in the *diagnostique* of the stomach and intestines will readily appreciate the value of this method. It is easily seen, when applying bismuth salt emulsion, by means of the gyromele, *that the walls of the stomach and esophagus* become thoroughly coated with a stratum of the emulsion.[1, 7, 9, 30]

BACTERIOLOGY.

What has been said in regard to the removal of material from portions of the mucous membrane for pathologic examination will give a clear idea of the method used in taking cultures for bacteriologic examination from any selected portion of the gastric mucosa, without contamination from the mouth, esophagus, or other portions of the stomach.

The cable is enclosed in a tube and the end covered with a rubber cap (Fig. 15) which is attached to a string that passes outside along the tube, and when the desired point is reached the cap is pushed off and withdrawn. (Fig. 16.) After a culture is taken from the walls, the cable is drawn into the tube again and the instrument withdrawn from the stomach.

A portion of the rubber end of the tube is then cut off to prevent contact of the sponge with any material which might enter it as it is being withdrawn. The sponge is then pushed out and inoculations made in the usual manner. I have used in special work, requiring great accuracy, a second outside tube that reached to the cardia only. This forms a protection sheath to the above-described tube that is pushed into the stomach. For practical purposes, the simpler method is sufficient.

It is not possible to make accurate bacteriologic investigation of any kind where contamination takes place. This is one of the chief principles upon which modern bacteriology rests. A stomach-tube introduced into the stomach and the stomach contents examined for bacteria gives no scientific data of the flora of the stomach. The micro-organisms in the lumen of the stomach, mixed with food, are transient and, without a constant factor, we can make no accurate deductions. The colonies develop upon the walls of the mucosa, in the bed of mucus, food detritus and exfoliated cells, which adheres with glue-like tenacity. This furnishes an opportunity for bacteriologic examination if we can secure such material uncontaminated. I have already referred to my studies of the gastric flora under various pathologic conditions.[1, 3, 4, 6, 11, 12, 16] The normal stomach, as previously shown, does not permit germs to develop upon the mucous walls, although germs may be found free in the lumen. From a series of experiments upon dogs, my conclusions were that gastritis is caused chiefly by the growth of a variety of germs that develop upon the walls of the stomach; the type of inflammation was not dependent on special forms, but on the groups that predominated. I have verified the accuracy of these methods by cultures taken from the walls of the mucosa during operations for gastrostomy, gastroenterostomy and pylorectomy. Gehrmann,[44] referring to the use of the gyromele in bacteriology, states: "It is apparently the only way of attaining definite data as to bacteriology of the stomach."

BIBLIOGRAPHY.

1894.

1. Turck: Presentation of a Paper on the Use of the (Gyromele) Revolving Sound, at the International Medical Congress, Rome, 1894. (With demonstrations on Patients.)

Description of instrument and the method of its introduction. Introduction of revolving sound into the stomach, pylorus and duodenum for diagnostic purposes. Chemical and bacteriological examination of mucus from gastric walls. Treatment.

"Methods of treating certain diseases of the stomach by cleansing and massage, based upon pathologic indications."

Proceedings International Medical Congress, Rome, 1894. (Section of Internal Medicine.)

2. Manley: Rotary Gastric Sponge for Purposes of Diagnosis and Treatment, etc. Philadelphia Medical Times and Register, Vol. 27, No. 16, April, 1894. (Ed.)

Description of instrument. Method of introduction, methods of diagnosis: "After the sponge has entered the stomach its movements may be distinctly felt, with the hand over the epigastrium. Now it may be passed onward almost any distance through the pylorus into the intestines. Value of apparatus for diagnostic purposes.

1895.

3. Turck: Eine neue Methode der Diagnose und Therapie der Magenkrankheiten und bacteriologische Studien bei denselben. Wien. Med. Woch., Nos. 1 und 2, 1895.

Description of the gyromele (revolving sound). General pathologic conditions of the stomach. Chemic bacteriologic and special pathologic findings. Determination of size and location of greater curvature. Condition of pylorus, muscle walls, degree of muscle tonus. Localization of abdominal tumors. "Bei der Localisation von Abdominal Tumoren war die gleiche Methode von Nutzen." Therapeutic uses.

4. Turck: The early diagnosis of carcinoma of the stomach, with the bacteriology of the stomach contents. Journal Am. Med. Assn., March 2, 9, 16 and 23, 1895.

Reports of 19 cases dating from 1893, with description of the examination in detail, showing methods of differential diagnosis. Location, size and character of stomach determined with the gyromele. Locating tumors of the cardia, wall of the stomach and sounding the pylorus verified by operations and postmortems. Bacteriologic examination with cultures derived from the stomach walls by aid of the gyromele. Description of bactoriologic methods.

5. Wesener: Chemic diagnosis of stomach affection. Trans. Ill. State Medical Society, 1895.

Use of Turck's gyromele. Report of cases in which HCl was found absent. Stimulation by gyromele provoked the secretion of HCl. Significance of this procedure in cases examined. Description of gyromele.

6. Turck: Chronic glandular gastritis. Use of the gyromele. Therapeutic Gazette, May 15, 1895.

Presentation of a case.

"On examination we found the stomach to within one inch of the umbilicus." Removal of material adhering to the stomach walls for microscopic examination. Therapeutic value of gyromele especially in muscular weakness without stenosis. Importance of obtaining more definite information of processes going on in stomach and intestines. Differential diagnosis between muscular atrophy of stomach and achylia gastrica.

7. Turck: Methods of diagnosis and therapeutics of diseases of the stomach and intestines. Jour. Am. Med. Assn., June 22, 1895.

General consideration of various diagnostic methods. Determination of distensibility of the stomach by means of introduction of cables of different degrees of flexibility, by use of the gyromele. Determination of condition of esophagus and cardia. Removal of material from mucosa for microscopic and bacteriologic examination. Differential diagnosis between functional disturbances and atrophy of the stomach. Various therapeutic procedures.

8. Turck: New instruments for investigation of stomach disorders. (Read, June 22, 1895). Proc. Philadelphia County Medical Society, Vol. XVI, p. 207, 1895.

Description of gyromele for uses in diagnosis of tumors of stomach. Citation of a case in Buda Pesth of supposed carcinoma of the stomach excluded by use of the gyromele. "It was afterward found to be a tumor of the kidney." Differentiation between absence of HCl as functional disorder and as evidence of atrophy of the glands. Condition of walls determined by use of the gyromele. Attention called to methods of diagnosis and treatment of diseases of the intestines by use of the gyromele, "which also stimulates the musculature of the canal." (Demonstration on a patient.)

9. Turck: Demonstrations of new methods of treatment of diseases of the stomach and intestines. Medical and Surgical Bulletin, July 1, 1895.

Gyromele for exploration of the esophagus. Value of palpation of the vibrations produced by the rotated gyromele. Localization of the cardia by means of the gyromele. Exploration of pylorus and duodenum with the gyromele. Use of the gyromele in the colon, uterus and bladder.

10. Reed: The importance of protecting the stomach and intestines from pathogenic germs. The Annals of Hygiene, August, 1895.

The use of the gyromele for taking cultures from the stomach walls. Description of Turck's experimental method of inducing gastritis in dogs.

Turck: Diseases of the mouth, nose and throat as etiologic factors with bacteriologic studies of the pharyngeal vault. N. Y. Med. Jour., Nov. 23, 1895.

Bacteriologic examination of mouth and posterior nares with special gyromele, with corresponding examination of the stomach in the same cases. Report of 11 cases. Method of making cultures.

"The invasion of the stomach from the infected mouth and pharynx is supported by the fact that many of the known pathogenic micro-organisms present identical biologic and morphological characteristics in gastritis as the micro-organisms found in the mouths and post nares of the same patients.

12. McCaskey: The diagnosis and therapeutics of gastro-intestinal diseases. Fort Wayne Med. Jour.-Mag., September, 1895, p. 375. (Ed.)

The value of investigation of the stomach and intestines especially by the use of the gyromele: "Such methods are applicable to a considerable extent throughout the intestinal tract."

13. DaCosta: Medical Diagnosis. Lippincott & Co., Phila., 1895.

1896.

14. Turck: The etiology and pathology of gastritis upon which is based rational therapeutics. The Chicago Clinical Review, Jan. Feb., 1896.

Sounding of the stomach and pylorus: Degree of gastric myasthenia measured by cables of different degrees of flexibility. Food adherent to stomach walls due to glue-like consistency and to motor insufficiency of stomach. Lumen of stomach free from food, which adheres to the wall, found by gyromele, makes the diagnosis of gastric myasthenia positive. Bacteriologic examination of stomach. Bacteria, classified.

15. Turck: The double stomach-tube. JOUR. AM. MED. ASSN., Jan. 11, 1896.

Description of the double tube (also in No. 78-9) with a rubber bag attached, used in connection with the gyromele. Value of the apparatus for diagnostic purposes. The double tube with attached bag and cable within the tube is introduced into the stomach. The bag is located in the stomach by palpating the abdomen while rotating the gyromele through one side of the double tube. The bag is inflated and the distance of the cardia greater curvature and lesser curvature can be measured. The degree of muscle tonus is estimated by injecting water into the bag in conjunction with air, or without air. Determination of the location of the bag within the stomach is made by palpation of the vibrations of the revolving sound as well as by percussion.

16. Turck: The Improved Gyromele. N. Y. Med. Jour., Feb. 8, 1896. The flexible cable is covered with a tightly fitting rubber tube, which passes through a short outer tube or sheath which reaches to the cardia only and remains stationary. The revolving cable rotating within the outer tube may be pushed back and forth, thus reaching all parts of the stomach.

17. Wesener: Centralblatt für Physiologie (Abstr.), Bd. x, No. 1, April, 1896.

18. Turck: Gastritis glandularis chronica. Medical News. April 4, 1896.

Methods of bacteriologic investigation with the gyromele. Methods of producing artificial gastritis in dogs. *Bacterial growths on* stomach walls. Pathologic investigation by taking out pieces of mucous membrane from *the walls of the stomach* of dogs at different intervals, using an instsrument called Turck's "Nippers." As the *germs grow in the walls of the stomach* certain changes in the glands appear. Description of the exudate or material adhering to *mucous* membrane. The early changes in the gland cells from the animal in which artificial gastritis was induced; the early chemical changes in gastric secretions (toxins); the advanced stages of gastritis produced in dogs with pathological findings. Flora of gastritis. The value of the use of the gyromele with experiments and *cultivation of germs in clearing* up a few of the mysteries of gastric catarrh.

19. Boas: Ueber die *Bestimmung der Lage und Grenzen des* Magens durch Sonden Palpation. Centralblatt für Innere Med., No. 6, p. 145, 1895.

20. Planck: The use of the gyromele and other methods in the diagnosis and treatment of diseases of the stomach. Therapeutic Gazette, July 15, 1896, p. 440.

21. Kuhn: Sondierung des Pylorus am lebenden Menschen vom Munde aus. Muench. Med. Woch., No. 6, 29, July 21, 1896.

22. Einhorn: Diseases of the Stomach, New York, 1896.

23. Riegel: Die Erkrankungen des Magens (Nothnagel Spec. Path. und Therap.) Wien, 1896.

24. Rosenheimer: Pathologie und Therapie der Krankheiten der Speiseröhre und des Magens. Wien und Leipzig, 1896.

1897.

25. Aaron: Chronic dyspepsia and chronic catarrh of the stomach. Med. and Surg. Report, Jan. 16, 1897.

26. Turck: Experimental and clinical observations on erosions of the stomach. *Ft. Wayne Med. Jour.-Mag., Jan.,* 1897.

27. Kuhn: Sondierung am Magen, Pylorus und Dünndarm des Menschen. Archiv f. Verdauungskrankheiten, Bd. iii, Heft 1, 1897.

28. Hemmeter: Die Priorität der Pylorussondierung. Centralblatt f. innere Med., 1897, No. 2.

29. Turck: Modern Methods of Treatment of Diseases of the *Intestines.* N. Y. Med. Jour., March 20, 1897.

30. Turck: Explorations with the gyromele. Methods of physical examination of the stomach and intestines by the aid of the gyromele. (Demonstration on Patients.) Trans. Ill. Med. Society, 1897.

31. Ferguson: A case of gastrostomy. Chic. Med. Recorder, Vol. xiii, No. 1, July, 1897.

32. Boyd: The significance of dilatation or gastrectasia in functional and organic diseases of the stomach. British Med. Jour., July 31, 1897.

33. Hershey: A contribution to the Pathology, Diagnosis and Treatment of Gastric Disorders. Colo. Med. Jour., Aug., 1897.

34. Hemmeter: Diseases of the Stomach, 1897. Philadelphia, p. 642. Description of method of sounding the duodenum.

35. Hare: Practical Diagnosis. Philadelphia, 1897.

36. Ewald; Diseases of the stomach. American Translation. 1897.

1898.

37. Turck: Diagnosis and treatment of diseases of the duodenum by direct methods. JOUR. AM. *MED. ASSN., July 30,* 1898.

38. Turck: *Die Priorität* der Sondierung von Oesophagus, Magen und Darm, mittelst der Gyromele (biegsamen revolver Sonde). Centralblatt f. innere Med., No. 8, 1898.

39. Turck: A demonstration of intragastric instruments. British Med. Jour., Dec. 24, 1898, p. 865.

40. Von Valzoh-Nesbitt: The diseases of the Stomach. Phila., 1898.

41. Notes on the demonstration of methods in gastric therapeutics. Lancet, Jan. 28, 1899, No. 3935, p. 216.

42. Turck: "Motor insufficiency of the stomach," with exhibition of cases before the Chicago *Medical Society.* The North Am. Practitioner, Vol. xi, No. 2, 1899, in which the gyromele was used in the stomach and duodenum.

43. Turck: Further observations on the treatment of the abdominal viscera through the colon. Trans. Miss. Valley Med. Assn., 1899.

44. Gehrmann: *Bacteriology* of motor insufficiency of the stomach. Chicago Med. Recorder, Feb., 1899, p. 120.

45. Turck: Motor insufficiency of the stomach. Chic. Med. Recorder, Feb., 1899, p. 112, Vol. xvi, No. 2.

1899.

46. Ewald: Diseases of the *Stomach. Translation,* 1899.

47. Terrier et Hartmann: Chirurgie de l' estomac, Paris, 1899.

48. Herschell: Constipation, London, 1899.

49. Gillespie: A manual of modern gastric methods, chemical, physical, and *therapeutic.* Edinburgh, 1899.

50. Turck: Chicago Med. Recorder, 1900.

1900.

51. Turck: (Colonic Sound.) Further observations on treatment of the abdominal viscera through the colon. JOUR. AM. MED. ASSN., May 5, 1900.

52. Turck: Rumination and periodic and habitual vomiting. Medicine, Jan., 1900.

53. Gumprecht: Die Technik der Speciellen Therapie, Jan., 1900.

54. Hemmeter: *Diseases of the Stomach,* Phila., 1900.

A NEW OPERATIVE METHOD TO EXPOSE THE SEMINAL VESICLES AND PROSTATE FOR PURPOSES OF EXTIRPATION AND DRAINAGE.

A PRELIMINARY REPORT.[*]

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NEW YORK CITY.

The extravesical incisions heretofore employed to expose the prostate and seminal vesicles are the Von Dittel, the Zuckerkandl and the Kraske.[1] In my book on diseases of the genito-urinary system, recently published,[2] I have fully detailed these operations, consequently in the present connection little attention will be paid to them aside from citing their surgical shortcomings.

In all these operations the trunk of the patient lies horizontally. In the Zuckerkandl operation the ordinary lithotomy position is maintained. In the other two the patient lies on the abdomen, the thighs hanging vertically downward over the edge of the table. The space afforded by the Zuckerkandl incision is too limited to allow a surgeon to do any accurate work in connection with organs so deeply situated as the seminal vesicles. The operation is bloody and tedious, numerous vessels having to be ligated in inaccessible positions. Both the Von Dittel and the Kraske operations are lateral ones, consequently only the right or left seminal vesicle and corresponding side of the prostate, as the case may be, are well exposed during a given operation. The Von Dittel operation was designed especially to expose the prostate, and it also does not serve the purpose of exposing sufficiently the region occupied by the seminal vesicles. Besides being unilateral the Kraske operation is formidable, owing to the extent of the muscular structures, the division of which its performance necessitates. When the seminal vesicles and prostate are in this manner exposed, they lie at the bottom of such a deep wound that Redygier, in order to satisfactorily manipulate them, found it necessary to make the operation still more formidable by advocating a transverse cut across the sacrum just below its third foramen.

Although I have had considerable personal experience with these operations in exposing the seminal vesicles, I have found them all very disappointing, and this has led me to originate the procedure which I am now to report, and which I have found eminently satisfactory. After describing my method in detail, I will report five cases in connection with which I have practiced it. These five represent my experience up to date, with the operation. The method is as follows:

In the first place it must be remembered that the perineal and pelvic structures to be submitted to operation are soft, yielding and elastic. In order to facilitate an accurate dissection through such tissues they should be made to assume as stable a position as possible, and that can only be accomplished by putting them on the stretch, thus making them taut. This can be accomplished by flexing the thighs sharply, as in the extreme lithotomy position. The patient with his thighs so flexed is put belly downward on a Trendelenburg table, the buttocks protruding somewhat over the end while the flexed thighs straddle the table. The end of the table is then inclined upward quite sharply. In this position the body is maintained by sand bags, strappings and the attention of attendants. Figure 1 represents the position described. It is generally better to put the patient in this position after he is under the influence of an anesthetic. Dr. Stone, my house surgeon at the city hospital, has had a table made with notches at the sides to take the knees, which device may prove of some advantage in steadying the body. An antiseptic, lubricated cotton tampon, to which a tape is attached, is then pushed into the previously cleansed rectum, well up into the region of the sigmoid, in order to guard against bowel leakage during the operation. In the Von Dittel operation a catheter is maintained in the urethra to mark the position of the canal during the performance of the operation. In my operation no catheter is necessary or advisable. I make it a point, however, to see that the bladder has been emptied just before the administration of the anesthetic.

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[*] Read before the New York County Medical Association, Feb. 18, 1901.

[1] In this connection mention should be made of the interesting surgical work of Dr. Hugh Young, of Baltimore, who has on two or more occasions exposed and removed the seminal vesicles by opening the abdomen and flexing the bladder forward.

[2] The Macmillan Co., New York, 1900.

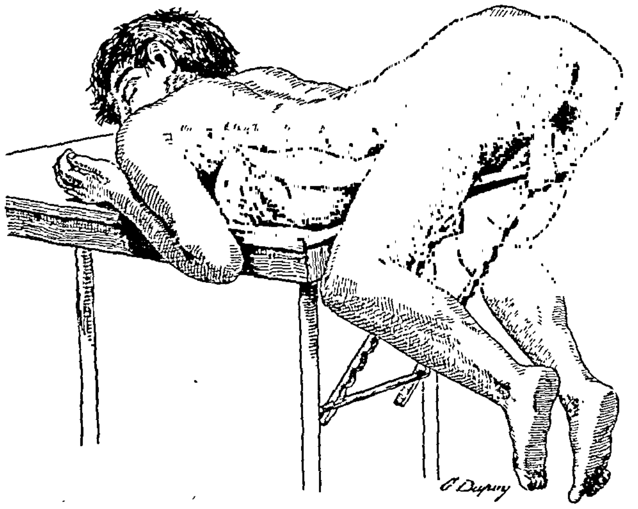

Fig. 1.

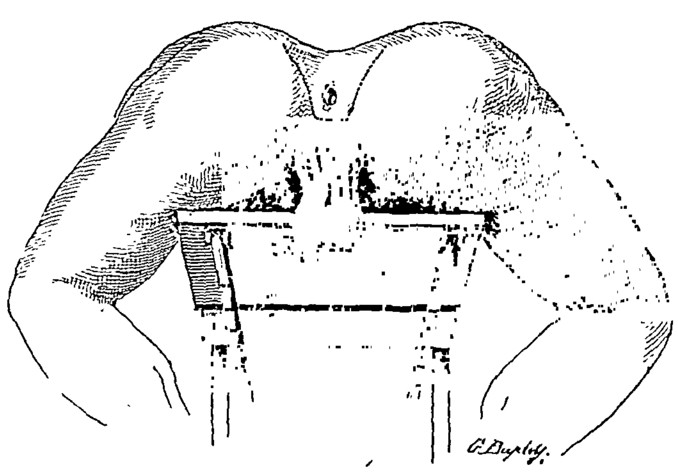

Fig. 2.

The next step is the external incision. This consists of two somewhat converging longitudinal cuts, which are connected at their dependent and proximal extremities by a transverse cut. The longitudinal cut to the operator's right begins a little above the upper border of the patient's coccyx and just inside the body of his right ischium, and extends downward and slightly inward, keeping just within the border of that bone, passing the tuber ischii and ending somewhat below that tuberosity at a point laterally and about three-fourths of an inch anteriorly to the anterior margin of the anus. The longitudinal cut to the operator's left corresponds exactly to the one just described, it lying in like manner along and just within the body of the left ischium. The transverse cut connects the converging ends, dividing the perineum transversely about three-fourths of an inch anterior to the anterior margin of the anus. Figure 2 shows the line of the incision. The line of incision being so marked the next step is to incise deeply along the longitudinal cuts, going through the fatty tissue of the ischiorectal space and dividing above a few of the lower fibers of the gluteus maximus muscle. The transverse cut is then deepened, the anterior layer of the deep fascia being cut through. Great care should be taken in cutting down transversely to keep sufficiently away from the anus to avoid wounding the sphincter muscle. The forefinger of the operator's left hand should next be inserted into the rectum, the ball of the tip being turned downward against the anterior rectal wall, while the corresponding thumb presses against the loosely dissected rectum, the hand at the same time exercising upward traction as illustrated in Figure 3. The gut is thus held up in the grasp of the thumb and forefinger, while with his right hand the operator employs the knife to dissect more deeply, cutting through the levator ani muscle and the visceral layer of the pelvic fascia. It must be borne in mind, in this connection, that the pathway of the dissection, which is between the urethra and rectal wall, is very narrow. The forefinger in the rectum acts in this deep dissection as a most important guide. The stroke of the knife in making it should be inward and at the same time toward the rectal wall. The tip of the finger should always be moved so that it is just behind the portion of the rectal wall where the dissection is being made. This being done there is no danger of perforating the rectal wall, and at the same time the direction of the dissection, keeping along close to the rectal wall, is such that the urethra escapes damage. In case the lower portions of the lateral incisions have not been deep enough to sever the fibers of the levator ani muscle they can now be made so. This accomplished, the rectal flap of the wound can be still further raised. The knife is then for the time being discarded and the operator's right forefinger inserted along the dissection, keeping just below the rectal wall till it passes through the cut in the visceral layer of the pelvic fascia and enters the lymph space which lies between the prostate and the rectal wall. This space being reached, the left forefinger should also be passed in alongside the right and the path of the wound over the prostate divulsed by separating the fingers. This much accomplished, it is comparatively easy, by a continuance of this separating process with one or both fingers, to strip the loose rectal connections off from the seminal vesicles and the posterior bladder wall, leaving those parts exposed to direct surgical attack. The operation for which the incision was undertaken being completed, the walls of the wound should be carefully adjusted by deep sutures, so as to bring the rectum back into its original position. A space, however, for gauze packing, should be left in the middle portion of the transverse cut. If the sutures about the rectal portion of the wound are not deep, so as to allow the sphincter to become firmly united to the outlying structures, some tendency to rectal prolapse may eventually develop. Temporary retention of urine demanding the passage of a soft catheter is very apt to develop, especially in cases where considerable gauze packing is left connecting the deep track of the wound with the surface. As the tissues in this part are well nourished, first-intention is the rule.

This operation renders direct surgical attack feasible in many rebellious forms of seminal vesicular disease which have formerly been left unaided, or which have responded unsatisfactorily to palliative measures of treatment. Acting on this assumption I have in this manner opened and drained thickened and catarrhally-distended seminal vesicles, have freed them from dense inflammatory adhesions, have removed a neoplasm from the interior of one of them, and have entirely extirpated one. Aside from extirpation of the seminal vesicles, much of the surgery I am now doing in this connection is in the nature of pioneer work. As the patients on whom I have practiced it are, however, still in the hospital, convalescent, or have been only recently discharged, it is as yet too early to draw conclusions as to its true surgical value. I have accordingly called attention in the title of my paper to the fact that my report is a preliminary one. This specification it is needless to say does not apply to my method of operating, the advantages of which are established. The operation, as I have stated, exposes the prostate most satisfactorily, making its removal comparatively easy. Although I have removed a very large number of prostates from those suffering from the effects of prostatic hypertrophy, I have almost uniformly done so in connection with a suprapubic or perineal cystotomy, and shall probably continue to do so in spite of the easy route afforded by the operation just described, since I consider drainage and treatment of the bladder in that class of cases a most important feature in the after-treatment, the accomplishment of which is impossible in connection with an extravesical operation. For suppurative conditions in connection with the prostate the operation I have described would be of practical value.

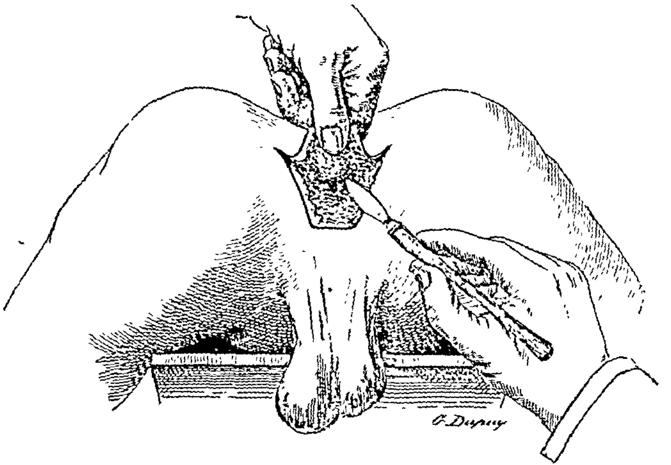

Fig. 3.

Up to the present time I have employed my operative method on five occasions. The patients have all recovered most satisfactorily, their stay in the hospital averaging about three weeks. In three of them the purpose of the operation was to expose chronically diseased seminal vesicles for incision and drainage. In these instances free longitudinal incisions into the diseased sacs were made and, were the interior of the organs was found to be granular from chronic catarrh, such tissue was removed by gentle curettage. In all cases the cavities of the sacs were left packed with gauze, while gauze drainage to the surface of the wound was established. Wherever the sacs were found bound-down by perivesicular inflammatory adhesions, such were broken up, leaving the organs free. This is an original method of treating chronic seminal vesiculitis. I think it will prove of much value in connection with very aggravated cases. As my experience with it is as yet, however, very recent, I will not at this time comment further on it.

One of my cases represented an instance of extirpation of a seminal vesicle, while from another I removed a neoplasm from the interior of a seminal vesicle, leaving the sac intact, the first operation of its kind on record. The neoplasm in question was an adenoma having, however, associated with it certain evidences which made the examining pathologist fearful of the coexistence of carcinoma.

MYASTHENIA GRAVIS PSEUDOPARALYTICA.

(ASTHENIC BULBAR PARALYSIS.)*

J. R. BUIST, M.D., and E. G. WOOD, M.D.
NASHVILLE, TENN.

In 1877, Wilks, of Guy's Hospital, London, published the report of a case of "Bulbar Paralysis without Anatomical Changes." "The patient, a girl, could scarcely move about, spoke slowly and had strabismus. For a month she remained in much the same condition, then all the symptoms became aggravated and in three days they assumed the characters of bulbar paralysis. There were indistinctness of speech, difficulty of swallowing and inability to cough. Respiration became increasingly difficult, and death rapidly supervened." The next year Erb reported three cases in which the chief symptoms were a striking paresis of muscles, especially of mastication, of the neck and the eyes (ptosis), less of those of deglutition, the tongue and extremities.

During the twenty years that have passed since Wilks reported this interesting condition, 62 cases have been reported, including our own, most of them (46) from the continent of Europe—10 from England and 6 from this country. Though there has been a notable lack of unanimity in the nomenclature of this affection, the clinical features of the cases recorded by the various observers have been so strikingly similar in all their salient features, and the results of the autopsies have, with one or two doubtful exceptions, so uniformly presented a complete absence of all signs of organic disease both macroscopic and microscopic that there can be no reasonable doubt that practically all the cases belong to the same category.

To the earliest observers the symptoms which attracted the greatest attention were those referred to the muscles innervated by the bulbar nuclei, hence whatever the lesion or disturbance of function might prove to be, it was naturally referred to the bulb and the various designations of "bulbar paralysis without anatomical changes" (Wilks, 1877) and "asthenic bulbar paralysis" (Strümpell, Church, Dana, and Collins, in "Twentieth Century Practice") were given to the disease.

In 1890, Shaw[2] reported a characteristic example of the disease. In this case he drew particular attention to the weakness and exhaustibility not only in the muscles innervated by the bulb, but also in the muscles of the eyes and extremities. During recent years this weakness and exhaustibility of the muscles generally has taken perhaps a more important place in the symptomatology of the disease than that formerly given to the bulbar symptoms.

In 1895, Jolly[3] reported a case under the title of "Myasthenia Gravis Pseudoparalytica," and he seems to have been the first to use this name. Recently the English writers, notably Buzzard, with Sanger Brown in this country, have adopted the same title. While it may be claimed that such a title is unscientific, one may urge that it is not misleading, that it suggests no pathologic conditions that might prove to be erroneous, and that it refers especially to the characteristic clinical feature of the disease.

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* Read before the Nashville Academy of Medicine, Dec. 11, 1900.

Etiology.—As to the etiology, practically nothing is known. Sex seems to play no important part. It has been observed most frequently in young adults. A few cases have been preceded by influenza, typhoid fever, prolonged worry or mental or physical exertion, but in the great majority of the cases the patients have been strong healthy individuals, free from any apparent taint, hereditary or acquired, before the attack, and in no instance recorded has any observer been able to attribute the disease to any definite cause. Rarely has there been a family tendency to nervous disease. Syphilis and alcohol seem to play no part as an etiologic factor.

Pathology.—At present nothing definite is known as to the true nature of the disease. In seventeen instances autopsies have been held by competent observers, with the practically uniform result that no lesions have been discovered either in the affected muscles or in any part of the nervous system, central or peripheral, that were sufficient to account for the symptoms. Careful and extensive microscopic examination of the whole nervous system by the most modern methods failed to discover any departure from the normal in 11 of the 17 autopsies; in the other 6 the lesions were slight and inconstant, and consisted of slight degenerative changes in the intramedullary portion of the anterior roots in one case, in the cells of the motor gray matter from the oculomotor nucleus through the whole length of the cord in another, of partial disappearance of the chromatophilic elements of the third, sixth, seventh and twelfth nuclei in another, and of slight medullary hemorrhages that possibly occurred while dying in the other three. By some the disease is considered to be toxic, the result of disturbed metabolism, and it is possible that the poison produces changes in the cells which can not be observed under ordinary modes of investigation, but which may in the future be demonstrated by more recent methods of examination.

An interesting experiment by Dr. Farquhar Buzzard[4] goes a long way to prove that the disease is one of the nervous system and not a myopathy. In a case under his observation he completely exhausted the biceps muscle, by faradic stimulation until movements were no longer visible; he then immediately applied galvanism and a prompt and vigorous contraction occurred. This tends strongly to show that the exhaustion was not in the muscle but in the conducting power of the nerve. The absence of muscular atrophy also militates against the myopathic nature of the disease.

Symptoms.—The characteristic features of the disease are the weakness of the muscles and the rapidity with which they become exhausted, the tendency to affect not only the bulbar muscles but also those of the eyes and extremities, the occurrence of remissions and exacerbations with a tendency to vary from day to day, the presence of the myasthenic reaction, the retention of intellectual and sexual power, and the absence of atrophy and fibrillary twitching, of sensory disturbance, of reaction of degeneration, of bladder or rectal troubles, or of interference with the reflexes. The onset is usually gradual, but sometimes rapid. Though the weakness may begin in any muscle, the cranial nerve muscles usually suffer first, and in the majority of cases the earliest symptom is either ptosis or diplopia; for this reason many of these patients first consult the oculist. The ptosis or diplopia may be slight, may be intermittent or may disappear altogether for an indefinite period, to recur again in a marked degree; after a time it usually becomes a permanent symptom which varies, however, from day to day, and tends to become worse in the evenings. The liability to fatigue of the levator palpebræ is readily shown if the patient looks steadily upward at an object held above his eyes, when the lids are seen to gradually droop until the eyes are nearly closed. There may be weakness of any or all of the ocular muscles, resulting in complete ophthalmoplegia.

Suckling[5] published two characteristic examples under the title: "Functional Ophthalmoplegia with General Paralysis and Implication of Cranial Nerves in Young Women." In these cases there was a great tendency to osciliatory movements of the eyeballs when fixed for a time to their limit in the direction of the weak muscle. In some instances the patients can not raise their eyebrows, wrinkle the forehead nor close the eyes tightly; in others the weakness of the lower facial muscles is shown by a calm, rather expressionless countenance. Sooner or later the muscles innervated by the bulbar nuclei are affected; weakness in these muscles may be the earliest symptom, or it may not appear until near the end of the case. It is owing to the prominence of these bulbar symptoms that the disease has been designated "asthenic bulbar paralysis." All the symptoms of true bulbar paralysis may be present, but they are usually less marked, nearly always bilateral and are characterized also by exhaustibility and variability from day to day. There is difficulty in biting, mastication, deglutition and articulation; the palate reflex may be weak and on phonation the soft palate but slightly elevated on one or both sides; there may be inability to protrude the tongue beyond the teeth, or if projected to its normal extent it soon tires, begins to quiver and recedes into the mouth; difficulty in sucking, blowing or inflating the cheeks may be observed. In many cases the patient begins his meal all right, but in a few minutes, though still hungry, he is compelled to rest owing to the weakness in his muscles of mastication, or before he has satisfied his hunger he is no longer able to swallow and fluids regurgitate through his nose. The difficulty in articulation is shown by the weakness of the voice after use. At first the patient can speak clearly and distinctly, but his voice gradually grows weaker until he can no longer articulate; after a short rest he can proceed as before. The disease is prone to affect the respiratory muscles, producing attacks of dyspnea of an alarming character; indeed, the majority of the deaths have been due to asphyxia from this cause. The rapid fatigue of the respiratory muscles is well shown in our patient, who lost three-quarters of an inch in expansive movement after eight or ten inspirations.

The muscles of the head and neck may be affected with a tendency of the head to fall backward. The extremities are weak, the patient may be unable to raise his arms above his head, or, if he can do so, he can not maintain them in this position beyond a few minutes when they gradually fall to his side, but after a brief rest he may be able to raise them as high as before. His grip is feeble. In writing he begins rapidly, but after a few lines it becomes slower and labored until he is compelled to stop. The patient may be able to walk well for a short distance, then his gait becomes feeble and irregular until he is forced to sit down and rest; he may be unable to lift one knee over the other. In some cases the weakness is so marked that the patient is unable to raise himself out of bed or to rise from a chair.

In addition to the weakness and exhaustibility, with in some cases a permanent paresis, which may affect any of the voluntary muscles, other striking features of the disease are its tendency to be aggravated in the evening, especially after exercise, the occasional exaggeration of the weakness when the patient's attention is drawn to his condition and the better performance of involuntary than voluntary movements. Remissions and exacerbations are common and the patient may for weeks, months, or even years—five years in Dreschfeld's[9] case—appear to have made a complete recovery and then, perhaps suddenly, there is a recurrence of all the symptoms.

Myasthenic Reaction.—The electrical reactions in the affected muscles are interesting. If the muscle is not fatigued by voluntary exertion there is a prompt and good response to faradic stimulation—the vigor of the contraction, however, varies in different muscles and in the same one at different times. As the applications of the current are rapidly repeated, the movements gradually decline in extent and force until in a few minutes contractions are no longer visible, but after a minute's rest vigorous contractions are again induced by faradism. This peculiar exhaustibility of the muscles to the faradic current is called the myasthenic reaction, and since it was first described by Jolly it has been found to be present in the majority of the cases in which the examination was made. Even after exhaustion to faradism a vigorous contraction is at once induced by galvanism. In no case has reaction of degeneration been demonstrated.

It is very striking that in a disease with such pronounced and characteristic motor defects, which often lead to a fatal termination, there remains throughout a complete absence of so many of the well-known signs of organic disease in both the nervous and muscular systems. There is no atrophy of the affected muscles and fibrillary twitchings are absent; the special senses are unaffected and intelligence is good to the end, though in a case reported by Collins there was rapid exhaustion of the senses of sight and hearing; there are no sensory or trophic disturbances; there is no ataxia and the pupils are normal. There are no bladder or rectal troubles and the superficial reflexes, arm and knee-jerks are normal, or present no material change; in a few cases it is said that the knee-jerks became exhausted after repeated tappings.

The course of the disease is characterized by the tendency to remissions and exacerbations already mentioned. In some instances the affection is almost limited to the bulbar muscles, but in most cases it is extensive in its distribution. The duration is indefinite; it may be chronic, as in Dreschfeld's patient who died from respiratory paralysis fifteen years after the onset of the disease, and in one of Buzzard's, who is still living eight years after the symptoms first appeared; on the other hand, it may be very rapid, as in an example reported by Widal and Marinesco,[6] where death occurred fourteen days after the onset of the first symptoms.

Diagnosis.—The diagnosis must depend upon the recognition of the characteristic features of the disease, the weakness and early fatigue of the muscles, the implication of other muscles than those innervated by the bulbar nuclei, especially those of the eyes and extremities, the tendency to remissions and exacerbations and the myasthenic reaction, with normal intelligence and the absence of atrophy and fibrillary twitchings, of sensory disturbances, of bladder and rectal troubles while the reflexes are normal. It is perhaps most likely to be mistaken for hysteria, neurasthenia, true bulbar paralysis or multiple neuritis, but a careful examination associated with the history of the case should prevent one falling into error. In this connection a case was recorded by Allbutt:[7] "Miss ———, aged 18, caught cold six months previously, followed by stiffness of the tongue and jaws; this stiffness remained for a few weeks and then disappeared. She now moves her tongue and jaws and indeed every muscle of the face, throat and orbit normally. Of late she has begun to talk oddly, 'as if with a potato in her mouth.' This gets worse as she proceeds, when her utterance becomes involved and she stops." She had difficulty in swallowing, "she choked over her meals, more when she was tired, that is, at the later meals of the day." No evidence of hysteria or other neurosis or of palsy or atrophy was found, nor any other evidence of organic disease, except that the "forefinger of the left hand seemed weak and fumbling." A diagnosis of hysteria was made and for two or three weeks she made considerable improvement. Then one evening her symptoms, especially the swallowing, grew worse again and next morning before breakfast "she suddenly fell to the ground, was convulsed, turned blue and died at her mother's feet." Such a case in the hands of so competent a diagnostician as Professor Allbutt shows how readily the true nature of the disease may be overlooked, especially when the symptoms are so apparently indefinite and so variable as in the example recorded. A discussion on the differential diagnosis between myasthenia gravis and the various diseases with which it may be confounded is hardly necessary. As a rule a careful examination of the patient will render the exclusion of other diseases which may resemble it comparatively easy.

Prognosis.—Of the 62 recorded cases, 23 terminated fatally, the average duration of life after the development of the first symptoms being about 1½ years. As in many instances the duration is protracted, and as several of the reported cases have come under notice only during the past year, it will be evident that these figures probably under-rate the true gravity of the disease. It is probable that complete recovery sometimes takes place. Attacks of dyspnea from weakness of the respiratory muscles are of the gravest possible omen, and the patient's friends should be warned that death may occur suddenly during one of these attacks.

Treatment.—No specific treatment is known. Complete rest, mental and physical, and freedom from all forms of excitement should be enjoined. Various drugs have been tried, but there is no evidence to show that any drug has a beneficial effect on the disease. Strychnin has naturally been tried, but so far without result One patient of Buzzard's made a great improvement under thyroid extract, but in another it was given without benefit. Faradism appears to have done harm, while galvanism and massage did no good. General tonics, as iron, arsenic and cod-liver oil may be of use in maintaining the general health.

REPORT OF CASE BY DR. J. R. BUIST.

According to the diagnosis of Dr. E. G. Wood and myself, the case we are about to report should be put in a class of nervous affections, the prominent feature of which is a peculiar paralysis, or, more strictly speaking, a paretic state of many muscular groups, upon exertion rapidly showing fatigue, soon succeeded by absolute loss of power if the action of the muscles is persisted in.

It is only in the last eight or nine years that a real clinical entity has been accorded this abnormal state of the neuromuscular apparatus. As much as twenty years ago some cases first attracted the attention of medical men in Germany and England, and were reported under different designations.

The foremost neurologists of Germany, France and England are, at the present time, evincing very great interest in these cases, and studying hard to solve the hidden problems of causation and pathology.

Let us recollect that most forms of disease when first recognized, appear infrequent, but as familiarity with the clinical features increases, we find that particular cases are not so uncommon. At all events we know that this will be the first case ever described and reported in the Southern States, and the sixth ever given to the profession in America. Dr. Wood and myself are glad that this distinction will belong to the Nashville Academy of Medicine.

All the articles written on this subject unite in stating that the first reported case that came to an autopsy was that of Dr. Wilks of Guy's Hospital, published in 1877. The examination of the brain and spinal cord were carefully and fully conducted, and as no lesions of these structures were found, Dr. Wilks gave his case the name of "Bulbar Paralysis without Anatomical Base."

Along about the same period Erb of Germany published one or two cases. No other case was reported for ten years after. From 1887 to 1893 quite a number were reported in Germany, France and England. About that time Jolly of Berlin appears to have been the first to use the term "myasthenia gravis pseudoparalytica." In 1893 Dr. Dreschfeld published a case under the heading "Polio-encephalo-myelitis without Anatomical Foundation." In 1896, Collins[8] uses the term "asthenic bulbar paralysis." Since then the text-books of Church and Peterson, Allbutt's "System of Medicine," and some other recent works employ the designation of "asthenic bulbar paralysis." Dr. Buzzard of London, in a lecture last March, used the term "myasthenia gravis," and so does Dr. Sanger Brown of Chicago in the last published case.

To our minds this term "myasthenia gravis pseudoparalytica" is by far the most appropriate yet employed. Without committing us to any theoretical doctrine of its etiology and pathology, or involving us in the necessity of localizing the disease, it simply gives us the most conspicuous clinical features.

Mr. E. R. R., white, 34 years old, a native of Giles County, Tennessee, and a resident of Carthage, Tenn., came under our care on Nov. 23, 1900.

Family History.—His father is said to have been an active and healthy man, and to have died at the age of 72, in an apoplectic stroke. Seven years previously he had a slight attack of hemiplegia, which was recovered from, except that the facial paralysis persisted. He had abdominal dropsy a year before his death. His mother was a woman of good constitution and died at the age of 73, of pleurisy. There were ten children, two by a first marriage and eight by the second—the patient is the youngest. His brothers and sisters seem to have been sound, of strong constitutions, except one brother now 48 years old, who, when 18 years of age, had an attack of typhoid fever. Ever since he has had tremulous movements of his hands. He can not write well; his condition has not changed in thirty years. One sister, now 38, with three children, after the birth of her last child—eight years ago—seems to have had puerperal mania. Her mind remains unsound, but she is not in an asylum.

Personal History.—The patient is a man of good intelligence and fair education. He has lived mostly in Tennessee, a few years in Florida, and has traveled abroad. He has always enjoyed excellent general health, usually weighing 140 pounds. He has led a very active and sometimes laborious life, being engaged in various mercantile pursuits, has had all the ordinary diseases of childhood, and a slight attack of influenza when 20 years old. This left no serious sequelæ.

Ten years ago, while working very hard in a wholesale drugstore, he suffered with lumbago, which confined him to bed for two weeks, and two years later he began to have pains in both legs and feet, with much restlessness of the latter at night. This condition lasted, with intermissions and in decreasing severity, up to two or three years ago.

He went to Europe in the summer of 1899, on business and for travel, remaining there until April, 1900. While in London, during February, drooping of the left eyelid occurred, and first attracted his attention while playing billiards—he was annoyed by the eyelashes coming in the field of vision. This drooping increased so that in two weeks complete ptosis of that lid existed, and he consulted an oculist. After three weeks partial recovery occurred and he has remained about the same ever since. He can not fix the date of the drooping in the right eye, but is sure that it was some months subsequent to the occurrence in the left. He had no diplopia at this time.

On April 20 he first observed that at times he saw double, and then visited another oculist in London. After examination he was advised to return home, as his case looked suspicious of serious trouble. He arrived in New York on May 10, and consulted an oculist for diplopia. He was wearing a shade over the left eye at that time, to avoid double vision. He reached this city on the way to Carthage on June 1, and walked from one train to another, in the station, carrying two heavy satchels. On taking hold of the hand-rail with his left hand, he found he had lost power in the arm and could not lift himself up by it. This was the first weakness he had experienced in any of the extremities. On June 10 he again noticed the weakness of the left arm when he tried to lift his baby. About June 15, while at home, he awoke from sleep in the middle of the night with very peculiar feelings—there was a wave of tingling passing through his body, great oppression over the chest and stomach, and he thought he was about to die. He had not eaten imprudently, but a dose of bicarbonate of soda gave him relief, and he was better before the doctor arrived; it was thought likely he had had indigestion. He says it was not at all like night-mare. Subsequently, at long intervals, he had slight recurrences of this.

Early in July he first found he had lost power in the right arm—discovering this by his inability to put this hand into his hip pocket. Two weeks later, in going into the village one-fourth of a mile from his home, he took a short-cut and had to cross a stile steps, so he reached out both hands and sought the fence to help him up, but his hold gave way and he fell backward to the ground. He recovered in a few minutes sufficiently to walk a few hundred yards to a doctor's office. He was then in a state of great prostration—pulse from 110 to 120 and weak. He had to be taken home in a carriage.

A few days after this he went to Red Boiling Springs and remained there two weeks. Just before leaving home, he thinks his lower limbs were weak. His stomach and digestion had become disordered and he felt badly and was losing flesh. He made no improvement at the Springs, and in a few days after returning home, started to Battle Creek Sanitarium in Michigan. By September 15 his muscular weakness had increased so much that he was unable to raise himself in bed or to dress himself unaided.

He remained at this institution from August 1 to October 1, receiving the usual treatment of massage, hot and cold packs, electricity, etc., the paretic state all the while increasing, although he was much relieved of his gastric disturbance.**

Through October, and up to November 21, he remained at home, during which time he thinks his condition grew no worse. He has never had the least trouble with his bladder. His urine has been repeatedly analyzed and nothing abnormal found. His bowels are usually good; no rectal paresis. He never had headaches, no febrile attacks and no pains except as above noted.

EXAMINATION OF PATIENT BY DRS. WOOD, J. R. AND W. E. BUIST; AT 8 P. M. NOVEMBER 23, AND 8 A. M. NOVEMBER 24.

He was fairly well nourished, color good, intelligence excellent, memory good. His forehead showed transverse wrinkles distinct. His expression was calm, the lower half of his face smooth and symmetrical, both at rest and in action. There was partial double ptosis. When his eyes were fixed on any object held above the eyes, the upper lids would gradually fall until the eyes were almost closed. Both eyes could be tightly closed.

Ophthalmoplegia (Partial).—The movements of both eyeballs were defective in all directions—weakest in the left external rectus. Convergence was fair. On turning the eyes to their limit in any direction. oscillatory movements soon appeared. The pupils were normal in size and shape, the reaction to light and accommodation good. The fundus was normal in both eyes. There was no facial paralysis, but the lips were weak and easily fatigued on suction. The tongue protruded in a straight line and with normal force, but soon began to quiver and in less than two minutes would fall back. The palate-reflex was normal, and moved well in both sides. The jaw-jerk was active, but on biting the temporals and masseters were weak and soon became fatigued; eating, swallowing and talking tired him in a few minutes. The neck muscles were sound and the trapezii quite active and strong. The pectorals and serrati were weakened, the latissimi good.

Arms.—The grip was very feeble in both hands. The dynamometer showed right 25 and left 27, and was better at the morning examination—32 and 35. Flexion of the elbow was active and strong if not resisted, but weak against resistance. The deltoids were flattened and small. There was no atrophy of the infra and supraspinati. He could raise his arms, flexed at the elbow, so that the fingers reached the top of the ears, and could maintain them, the right 25 seconds, the left 20, and then they would fall down. He could not put his hands in his hip pocket. His chest and shoulders were symmetrical—no fibrillary twitchings. Chest expansion: Expiration, 30½ inches; inspiration, 32½. After eight or ten deep inspirations, the power of expansion diminished to three-quarters less. The patient could write for a few minutes, but the handwriting then rapidly changed, becoming feeble, with irregular, illformed letters.

Lower Limbs.—These were weak generally, but with no atrophy. The thighs measured the same, and the calves were equal. In the recumbent posture he could put one leg over the other, and sitting could, with the greatest difficulty, throw one knee over the other—he could flex and extend the knees easily and equally. He could not raise either limb against resistance. When lying down he could not rise up unassisted, and when sitting could not rise to the erect posture without help. He could stand erect alone. Romberg's symptom was absent. Walking twice across the room his gait was good, his step being a little quicker than it should be, but after the third round his limbs got tired and he had to support himself or he would have fallen. The knee-jerks were very active when lying on his back and rather more than normal when sitting, but equal in both limbs. There was no foot clonus, and no extensor response of the big toes.

Myasthenic Reaction.—Tested at 8 a. m., November 24, the biceps responded well the first half minute, then grew weak, and responses ceased in about three minutes. Responses of the deltoids were very weak, and became exhausted in 2½ minutes. Both arms were alike.

Sensation.—There was no pain anywhere. Cutaneous sensibility was everywhere unimpaired to touch and pain—temperature test not used. The muscular sense was good. He could touch the point of his nose with a finger of either hand with his eyes shut, without tremor. No ataxic gait and no ataxic movement of arms existed. The organic reflexes were normal, and sexual power good. The symptoms of weakness and fatigability of the muscles were more pronounced in the evening examination than on the following morning.

The patient was under observation and treatment until December 11, and then went home. During this time the pulse and temperature remained normal, that is, between 76 and 88 and 98.6 to 99 respectively. His sleep was usually good and undisturbed. His appetite was fairly good and bowels regular. The urine was found normal in quantity and quality. His knee reflexes were frequently examined, almost always active and, when not so, hand reinforcement would develop them to fully normal. He wrote two short letters, the first he had written in some time; after the first page the hand-writing became bad. His digestion seemed easily disturbed and he was afraid to eat many articles of ordinary diet. On the evening of November 29, in less than an hour after dinner, he was seized with a tightness and oppression of the chest, some difficulty in swallowing and a sense of general prostration. His chest expansion was slight, even with effort, and his facial expression anxious. There was slight nausea when the head was raised a little, but no vomiting nor any epigastric pains or uneasiness. His voice was weak, and tired easily. This condition was recovered from in a few hours. He said he had felt such attacks before but lighter in degree. On another occasion he found slight difficulty in deglutition, the milk getting up in the posterior nares. The muscles were always a little stronger in the mornings, especially the levators of the eyelids. He was generally in a good humor, hopeful and patient. No twitchings nor tremors were ever present.

He improved in muscular power perceptibly while under our observation, the grip of the right hand 35, of the left 36, at the time he left. He did not improve any in flesh or general condition. He could walk across the room eight times without giving out. Dr. L. B. Graddy was kind enough to examine the eyes on the day he left, and found the pupils normal. The fundi in both globes were equally normal, vision normal, and the vocal cords acted normally.

Treatment.—Complete rest in bed was ordered. The thyroid gland was tried a few days but abandoned, because it seemed to produce headache. Cod-liver oil and phosphorus was given for a few days, but his stomach rather rebelled and he was placed on codein, 1/8 gr. every three or four hours, which he still takes tentatively.

COMMENT.

Making a summary of the symptoms presented in the above record, we have the following clinical picture: A young man, previously healthy, with no antecedent illness and no irregular habits, is taken with a gradually advancing loss of power in the muscles innervated by the third nerve; then marked improvement up to a certain point. After a few months he suddenly becomes aware of a partial loss of power in the left arm. This slowly increases, when unexpectedly his lower extremities get quickly tired, and one day in attempting to get up a stile steps he staggers and falls back. Both arms and both legs now rapidly lose power, so that on very slight exertion complete exhaustion of voluntary power takes place. Meanwhile no change in sensibility and no impairment of mind, no abnormal condition of reflexes, and no disturbance in the circulatory system have occurred. The paretic muscles, though diminished in size, do not show real atrophy, and respond to electric stimuli. This irregularly progressive march of paresis finally invades the muscles of mastication, deglutition and respiration. This, it seems, is essentially different from the clinical history and behavior of any other form of neurotic disorder.

If we compare the above symptom-complex with the features of those nervous affections which most resemble it, and with which it has been most frequently confounded, we can easily differentiate "myasthenia gravis" from each and all.

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* * A letter from Battle Creek, Dated Nov. 12 (received Dec. 10), states that "his case is unique, and called myasthenia gravis."

REFERENCES.

1. Buzzard: British Med. Jour., March 3, 1900.
2. Shaw: Brain, 1890.
3. Jolly: Berliner klin. Woch., 1895.
4. Buzzard: Brain, 1900.
5. Suckling: British Med. Jour., 1893.
6. Widal and Marinesco: La Presse Med., April 14, 1897.
7. Allbutt: System of Medicine.
8. Twentieth Century Practice.
9. Dreschfield: Brit. Med. Jour., 1893, Vol. ii, p. 177.

LIMITATIONS OF THE LARYNGOLOGIST IN THE GENERAL TREATMENT OF NOSE AND THROAT DISEASES.

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The tendency observable in modern laryngologic literature, to ascribe to the general system a closer etiologic relation with the nose and throat, must have one important effect—to call for a more general treatment of the upper respiratory tract.

Before the local propaganda had practically absorbed the attention of specialists in our line, the general or systemic means comprised in great measure the plan of treatment of nose and throat diseases. And now that localism has had full sway, it is to be expected that the general treatment should come more into vogue. Perhaps, if it were merely a return to former conditions, there would not be much call for a paper on limitations in this regard. But we must not forget that during these years changes have taken place which have increased our knowledge tenfold and our range of instrumentation and manipulation a hundredfold; which have so added to the science of medicine that no man can encompass it; which have so multiplied the fields of work that division of labor is not alone a pleasure but a necessity. Knowledge is no longer cloistered in the minds of a few men; it is open and free to him who will but learn; and its adherents are no longer numbered by the few but by the many. Naturally, this encourages competition in the acquirement of knowledge and struggle for supremacy in the application of knowledge to the various fields of human activity.

The pace set by all these workers results in the development of the special lines and to such an extent that he who would keep up to the standard set by these pacemakers must confine himself, almost exclusively, to the domain of his own work. Hence, when there is a call to return to a general view of medicine, for the cure of certain nose and throat affections, the specialist who has been in great part a localist finds himself, if he be conscientious to patients, in a field in which he can not work, except to the detriment of his special duties, which can not receive the attention they require.

It is a consideration such as this that has led me to present here some points in the relation of the throat and nose to the general system, which seem, at least, to substantiate the proposition that has been made to the effect that the practitioner and not the specialist should conduct the general treatment. I know the argument is advanced that the specialist should be first a general practitioner, and then become a specialist, that he should never sacrifice his interest in general medicine for the detail of his specialty. And yet the progress in general medicine is so great that ten years make a tremendous difference and the specialist, after such a lapse of time from participation in the actual practice of general medicine, will find such a change that he will be in almost an unknown world. Then, he can barely keep up with the literature of his own line—not to speak of the tremendous amount that is to be included under the head of general medicine. Every month there are published about 300 articles devoted exclusively to the nose, throat and ear—the whole domain of medicine includes many thousands. Which is to be chosen, the relatively few or the impossible many? Another thing, the laryngologist's attention is, in the main, devoted to manipulation with instruments of examination and of therapeutics—can he be expected to be proficient in these and at the same time capable of outlining the plan of treatment which comprises conditions and circumstances remote from the nose and throat?

Because a paralyzed left vocal band is due to pressure upon the left recurrent, which in its turn depends upon a tubercular pleurisy or lymph node, is that any reason why the laryngologist should treat the tuberculosis? It seems to me that his function was completed when he discovered and localized the paralysis. Because chronic inflammations of the larynx and pharynx are often associated with bronchial and pulmonary conditions, and because the heart is in anatomic relation with the lungs and bronchi, is that any reason why the laryngologist should conduct the treatment of heart affections, or perchance kidney affections, which cause or result from cardiac diseases? I can understand how one who devotes his attention to the heart and lungs must be somewhat proficient in the diagnosis—not treatment—of nose and throat affections, but that the laryngologist should affect to include the lungs, heart and kidney is either presumptuous or evidence of a lack of full interest in his own line. It must be admitted, however, that circumstance sometimes throws a laryngologist into the necessity of including diseases of the lungs in his work, but few are equal to the task of properly filling both functions.

I say nothing of the justice which should be accorded the general practitioner who sends patients to laryngologists and to other specialists, for that matter, for his proper territory should not be encroached upon by the very men to whom he refers his cases.

Another phase of the question is to be found in the justice to patients, which we all should and do accord. Should we whose view is largely limited by the requirement of our special study and duties assume to meet the general indications with a skill equal to the general practitioner whose efforts are continually directed toward general conditions which we are considering? Is it not better for each to fulfil his own part of the medical and surgical management of the case—does not our own obligations to our patients demand this? We can, naturally, advise and consult with the general practitioner upon these matters, but to carry out these general indications is surely his particular function.

Relative to the bearing which general medicine and other specialties have upon laryngology, it will be interesting to consider the various conditions which may be associated with hemorrhage of the upper respiratory tract. According to Hagedorn, they include the following: Changes in the blood-vessels and blood itself, hemophilia, morbus maculosus Werlhofii, scorbutus, purpura hemorrhagica, phosphorus poisoning, anemia, leukemia, pseudoleukemia, diabetes mellitus, fatty degeneration of the blood-vessels, diphtheria, variola, ileotyphus, pyemic processes, gout, influenza, acute rheumatism, vicarious

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[*] Read by Title to the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association held at Atlantic City, N. J., June 5-8, 1900.

menstruation, nervous causes, lung diseases, heart diseases, interstitial nephritis, cirrhosis of the liver and pertussis. Is there a single condition enumerated here whose treatment a laryngologist would be justified in undertaking? Certainly there is as much reason to undertake general treatment of these complications and associations of epistaxis and hemorrhage from the pharynx as to prescribe general or systemic treatment for chronic rhinitis or pharyngitis.

In this connection, it might be well to mention that Kompe has discovered that epistaxis is a precursor of softening of the brain, which plainly indicates that in this instance the laryngologist might play the rôle of a diagnostician, but not that of a therapist.

COMPLICATIONS OF NOSE AND THROAT DISEASE.

When we investigate the various general and remote conditions which complicate nose and throat diseases, or which come into relation with them, we must be more than willing to admit that they can not fall within our therapeutic scope, unless they are relievable by local means or measures whose effect is local. Their number and distribution certainly offer a formidable argument in this regard. For instance, Friedrich groups them as follows:

Respiratory Diseases: All chronic lung diseases, asthma, emphysema, bronchitis, croupous pneumonia, chronic pleurisy, affections involving the apex of the lungs, edematous pleurisy, pleuritic exudates, chronic indurative processes of the lungs, tuberculosis, swelling of the intrathoracic lymph nodes, anthracosis, tumors of the mediastinum, diseases of the bronchial and peritracheolaryngeal lymph nodes, struma, thymus hypertrophy, abscess of the mediastinum.

Circulation: Heart weakness with lack of compensation, venostasis on account of the same, arteriosclerosis, mitral insufficiency and other valvular affections; aneurysm of the aorta, innominate, right subclavian and carotid, pericarditis, pericardiac exudate, thrombus, embolus, infarct and various affections of the heart and blood-vessels.

Digestion: Mouth conditions, dyspepsia, indigestion, cirrhosis of the liver, icterus, gall-stones, cholera Asiatica, cholera nostra, various stomach and intestinal affections.

Blood: Chlorosis, pernicious anemia, leukemia, pseudoleukemia, lymphosarcoma, hemophilia, purpura, scorbutus.

Chronic Constitutional Diseases: Rhachitis, acromegaly, diabetes mellitus, gout.

Acute Infectious Diseases: Measles, scarlatina, varicella, variola, typhoid, influenza, mumps, acute rheumatism, diphtheria, erysipelas, malaria.

Chronic Infectious Diseases: Tuberculosis, lupus, leprosy, glanders, foot and mouth diseases, anthrax, actinomycosis, rabies, trichinosis.

Kidney Diseases.

Skin Diseases: Eczema, herpes, pemphigus, impetigo, erythema, urticaria, lichen, miliaria.

Genital Diseases: Vicarious menstruation, masturbation, vasomotor reflex neuroses, puberty, gonorrhea, syphilis.

Eye Diseases.

Intoxications.

Nervous Diseases: Hemiplegia, progressive paralysis, cerebral softening, motor paralysis, tumors and abscess of the brain, meningitis, multiple sclerosis, bulbar paralysis, pseudobulbar paralysis, cerebral hemorrhage, cerebral syphilis and tuberculosis, tabes, syringomyelia, paralysis agitans, epilepsy, hysteria, chorea, enuresis nocturna, affections involving the cranial nerves, pachymeningitis, leptomeningitis, acute cerebrospinal meningitis.

It will be noted that though Friedrich devotes over 300 pages to the relations of the nose, throat and ear to these diseases, which comprise practically the whole range of medicine, he does not say one word on treatment, probably considering that this should in the main be left to general practitioners and specialists in other lines. This catalogue of diseases shows the utter futility of an effort on the part of the laryngologist to meet the general indications enumerated. To assert that some may be met is to confess that he is unequal to the task of conducting such treatment as successfully as one who makes a closer study of general conditions.

TREATMENT OF PHARYNGITIS.

It is very interesting to take up a single topic, such as chronic pharyngitis, and observe the general treatment advised by various laryngologists. The following are the general plans announced:

Ball interdicts alcohol and tobacco, urges suitable diet, sulphate of soda or Carlsbad salt, attention to general health, and mineral waters.

Block's treatment is prophylactic, dietetic, hygienic, climatic, hydriatic, medicinal and at mineral springs; mercury, iron, iodin and springs containing iron, arsenic, sulphur and iodin.

Bosworth treats gastric catarrh, and uses mineral waters, colocynth and podophyllum for constipation.

Bresgen tries mineral waters.

Coakley inquires into the diathesis, seeks to correct the causal conditions, relieves constipation and congestive diseases of the liver.

Downie prescribes general tonic treatment, dry bracing air, iron and quinin with bitter infusions, and saline aperients when necessary.

Fink treats sweaty feet with liquor antihydroicus of Brandau, corrects the disordered circulation and looks after the stomach and bowels.

French attempts to cure the impaired digestion, which is the underlying cause in the majority of cases.

Ingals attends to the bowels, with arsenious acid, saline diuretics, corrects dyspeptic symptoms, with colchicum.

Kyle gives careful attention to the general condition and to correction, as far as possible, of any underlying constitutional diathesis or organic lesion, and stimulation of glandular secretions of the alimentary and urinary tract. For this he gives effervescing phosphate of sodium, succinate of sodium, compound wine of iodin.

Lennox Browne resorts to saline purgatives, iron and vegetable tonics, and arsenical waters.

Morell Mackenzie prescribes confinement to the house, restricted diet, wet compress, mustard poultice, opiates, and the Turkish bath.

Mandel gives iron and iron salts, iodids, baths, and change of atmosphere.

Moure favors mineral springs, sulphur and arsenical waters.

Price-Brown treats chronic gastric disease, checks the liquor and tobacco habit, regulates the general system, attends to the alimentary canal and prescribes appropriate tonics.

Robinson treats the constitutional condition, by appropriate general medication and hygiene.

Rosenberg gives hygienic and dietetic treatment and baths.

Schech removes the anemia, scrofula, hemorrhoidal conditions, interdicts strong alcoholics, highly seasoned or too hot foods, smoking and snuff-taking; protects workers in dusty atmospheres by the use of respirators, enforces rest and limits use of the voice in professional speakers, prescribing baths, mineral waters, and hydropathic cures.

Schmidt stops the smoking and drinking, orders mineral waters, cold baths, and denies sugar to diabetics.

Seiler builds up the system, gives hygienic treatment, such tonics as quinin, iron and phosphorus, cautioning patients against the evil consequences of masturbation, venereal excesses and intemperance.

Solis-Cohen attends to the general health, urges avoidance of exposure, and maintenance of functions of the skin, bowels and other organs as normal as possible, giving as tonics, iron and quinin, phosphoric acid and compounds.

It is evident that in addition to the treatment at mineral springs, which can only be accorded to a minority of the sufferers from this disease, attention to the stomach and bowels, according to the references here given, constitutes by far the most important indication. Let us see what this signifies. Until a few years ago, such an indication would have been a simple one to meet in the light of the knowledge of the time. To-day it is different, for it involves a diagnosis between, and a thorough understanding of, acute gastritis, chronic gastritis, gastric ulcer, dilatation of the stomach, gastroptosis, superacidity and the various widely-distributed causes of constipation. To do this properly requires a thorough knowledge of the details of stomach-contents analysis, physiologic chemistry. physical diagnosis and the latest modern methods of gastro-intestinal treatment. This manifestly falls beyond the province of the laryngologist, and so, that which at first sight is the simplest general treatment associated with an affection of the nose and throat, calls for a general practitioner or one who has made the condition a matter of special study. So we may analyze the general indications in every nose and throat disease, until we are forced to the conclusion that our work should be limited to the local manifestations in the nose and throat alone.

In the few rare instances where general treatment results in immediate local change in the nose and throat, the laryngologist may appropriately conduct the general treatment, but under other circumstances it is his duty to refer the case to the general practitioner or to the specialist in whose domain the condition belongs.

Thus mercury and iodids in syphilis of the nose and throat, aconite, atropin, opium, coal-tar products, etc., in acute conditions, and salol, etc., and the salicylates in rheumatic conditions, so far as their effect is local, are subjects for study and use at the hands of the laryngologist.

Personally, I do not take the view that the general system has such an overwhelming influence upon the diseases of the nose and throat. I am more disposed to expect a local cause in the majority of instances. But when the system is found at fault, it is clearly not the function of the laryngologist to correct it, with the slight exceptions just indicated; and those who maintain that the general condition is the most important indication for treatment, must, in justice to their patients, refer them to the general practitioner for treatment.

LIMITATIONS OF THE LARYNGOLOGIST.

In conclusion, I venture the following as the limitations of the laryngologist in the general treatment of nose and throat diseases: 1. Acute conditions of the nose and throat, influenced by remedies which have an immediate local effect. 2. Rheumatic nose and throat conditions which exhibit a positive and early relief under appropriate treatment. 3. Syphilis of the nose and throat where general treatment may be best observed by watching its effect upon the local lesion, and where the local process is rapidly destructive. Even under these conditions, the patient's chances might be improved by assistance from one whose attention is less directed to localism.

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BIBLIOGRAPHY.

1. Hagedorn: Bresgen's Sammlung Zwangloser Abhandlungen, etc., Vol. i.
2. Kompe: Frankel's Archiv für Laryngologie.
3. Friederich: Rhinologie, Laryngologie und Otologie in ihrer Bedeutung für die Allgemeine Medicin, 1899.
4. Ball: Diseases of the Nose and Pharynx, 1898.
5. Block: Heymann's Handbuch, Vol. xi.
6. Bosworth: Diseases of the Nose and Throat, 1892.
7. Bresgen: Der Chronische Nasen und Rachen-Katarrh, 1883.
8. Coakley: Diseases of the Nose and Throat. 1899.
9. Downie: Diseases of the Throat, 1894.
10. Fink: Klinische Vortrage a. d. g. Otologie und Pharyngo-Rhinologie, Vol. i.
11. French: Transactions of the American Laryngological Association, 1891.
12. Ingals: Burnett's System, Vol. xi.
13. Kyle: Diseases of the Nose and Throat, 1899.
14. Lennox-Browne: Diseases of the Throat, 1893.
15. Morell Mackenzie: Diseases of the Throat and Nose, 1880.
16. Mandel: Maladie du Larynx et du Pharynx, 1872.
17. Moure: Twentieth Century Practice of Medicine, Vol vi.
18. Price-Brown: Diseases of the Nose and Throat, 1900.
19. Robinson: Transactions of the American Laryngological Association.
20. Rosenberg: Krankheiten der Mundhöhle des Rachens und der Kehlkopfes, 1893.
21. Schech: Translation by Blaikie, 1886.
22. Schmidt: Die Krankheiten der Oberen Luftwegen, 1894.
23. Seiler: Diseases of the Throat, 1883.
24. Solis-Cohen: Diseases of the Throat, 1872.

ABSOLUTE INCREASE OF MEASUREMENT FROM THE ANTERIOR SUPERIOR SPINE TO THE MALLEOLUS AS A SIGN OF HYSTERIC HIP DISEASE.*

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The differential diagnosis between tubercular and hysterical hip disease is sometimes easy but, on the other hand, sometimes exceedingly difficult, especially if the test examination under ether can not be resorted to; while the importance of a correct decision is always great, both from the medicolegal and the clinical standpoints.'

Gilles de la Tourette, in an excellent review of the subject, gives a number of diagnostic signs—left side involved oftener than the right; pain, spontaneous or induced by pressure and motion, not only about the joints but at various points along the affected limb; relatively great development of cutaneous hyperesthesia; absence of nocturnal paroxysms; the presence of hysterical edema about the affected joint and limb; involvement of the knee muscles in the rigidity; coldness of the affected parts; finally, the presence of other well-marked hysterical signs—most of which are approved by my own experience. To this list the sign indicated by the title of this paper is at times a valuable addition.

The shortening of the measurement from the anterior superior spine of the ilium to the malleolus, due to the erosions and absorptions of tubercular hip disease, is familiar to every one. Less well known is the fact that in early stages of the disease this measurement is sometimes longer than the corresponding one of the opposite side, and the communication by Halsted,[1] published in 1885, in which the obviously correct explanation of this is clearly given is less often cited than it deserves.

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Halsted's statement is that when this relative lengthening of the measurement is present on one side, it is mainly because the corresponding leg is adducted, and also because the opposite leg, with which comparison is made, is abducted. The latter factor is in fact the more important one, though both rest upon the same cause. It is, namely, perfectly evident, when one stops to think of the matter, that the center of motion within the head of the femur is ordinarily not in the direct line between the anterior superior spine of the ilium and the inner malleolus, but slightly inside of it toward the median line of the body. If, therefore, we measure from the anterior superior spine to any point below the neck of the thigh bone, we are measuring, as it were, the chord of a circle, and not the diameter, and no such chord can be as long as the diameter itself. If we strongly adduct the thigh, so that the three points in question lie in the course of one straight line, and then measure, we obtain, as it were, the diameter of the circle. It is also important to note that abduction shortens the measurement in question more rapidly than adduction lengthens it.

In the adduction of one limb and the abduction of the other with which its measurements compare, as met with in either tubercular or hysterical hip disease, provided they lead to tilting of the pelvis, these principles come eminently into play. The demonstration is easily made if one will place his foot on one end of a tape-measure and draw it taut to the anterior superior spine of the ilium, and will then note the changes in distance that are made as one sways the pelvis to the right or left, thus alternately adducting and abducting the limbs.

The value of this sign in differential diagnosis depends upon the fact that the lengthening of the measurements repeatedly alluded to rarely occurs in tubercular hip disease except in the early stages, when pain induces the muscular contraction which leads to tilting of the pelvis, yet when no erosion of the joint has taken place. In hysteria, on the other hand, the lengthening comes on with the contracture and does not pass away, however long the morbid conditions may last. Again, the difference between the two sides as regards this measurement is rarely, if ever, so great in true hip disease as it may be in its counterfeit, a fact which the case about to be reported will illustrate. Finally, the amount of lengthening or shortening is certain to be greater with persons whose pelves are of such a shape that the distance between the anteroposterior planes of the anterior superior spines and the acetabulum is relatively great. This is probably true of women as compared with men, but this point needs further investigation. I give a brief history of the case which called to our minds the importance of this diagnostic mark.

The patient was a woman about 30 years old, and of good health, up to the time of an accident which happened on July 31, 1893. On that date, while walking about a shoestore to make a purchase, she stepped backward through a trap-door, into a cellar about five feet in depth, but, the fall being partly broken by a short flight of steps, the actual blow was not very severe. She struck on the back, the left hip, and the back of the head, and, what was perhaps more important, she received a severe nervous shock, which was added to by the fact that she considered the storekeeper to blame.

After resting for a few minutes in a more or less dazed condition, she walked home, but almost immediately after entering the house she vomited, she said, two or three pints of a liquid which was colored with blood and was considered by her to be pure blood. The vomiting continued through the whole of that day, whenever any food was taken, but she kept about her house, nevertheless, until seen by her physician and advised to go to bed. For two days after this she was said to pass blood in the urine. The vomiting and nausea continued off and on for two weeks. She was extremely nervous, and suffered from attacks of faintness and pain along the vertebral column, increased by pressure. She had also palpitation and partial incontinence of urine for a number of weeks. Both legs became weak and would not bear her weight, though there was no paralysis. The pain in the neighborhood of the left hip was an early symptom, and would perhaps have been associated with the pain in the back as one of the general nervous symptoms, but for the fact that pain on active and passive motion, so severe as to make her scream out during the examination, suggested the idea of hip disease. Besides this pain on passive motion there was persistent dull ache, but there were no spasmodic outbreaks, even at night. The pelvis was tilted upward on the left side, to an extreme degree, and all the muscles controlling the motions of the hip-joint, and indeed those at the knee and ankle also, though to a less marked extent, were held rigid, so far as could be ascertained, day and night, without intermission. The diagnosis of hip disease was, moreover, strengthened by the discovery that the measurement from the anterior superior spine to the internal malleolus was greater by half an inch to an inch on the affected than on the unaffected side.

Treatment had been instituted in accordance with this view, and many months elapsed before she was permitted to put the foot to the ground. Meantime, the difference in the measurements aforesaid between the right and left side increased somewhat, so that it became actually more than an inch, while the whole limb became relatively cold and the muscles atrophic.

At an examination made by me in 1893, five months after the accident, and again nearly a year later, a well-marked hemianesthesia was found, associated with hyperesthesia over the hip-joint area, and the case was considered to be one of hysteria, pure and simple. Indeed, all her physicians had considered some of the signs and symptoms as of that nature.

At an examination made fifteen months after the injury, hemianesthesia of the left side, including the arm, leg, face and trunk, was still well marked. The vision of the left eye was not quite so good as that of the right, but there was no great impairment of the field for motion or color. She was still wearing the Taylor extension-splint and was suffering much from poor sleep, pain in the hip, knee and back, and from various hypochondriac and hysteroid symptoms. The general nutrition was poor. When she was examined, while lying flat on the table, the tilting of the pelvis toward the left side was so extreme and the abdominal muscles on the left side were so contracted that a depressed appearance was given to that half of the abdomen. The patient shrank from the slightest touch over the skin on or near the hip, pelvis, or back on the left side, and the slightest motion at the hip-joint was strongly resisted. The region of the left trochanter was excessively prominent, more than could be explained by any ordinary effusion or thickening. The surgeons considered that thickening was present, but I was inclined to believe that the condition was due to hysteric edema.

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[1] N. Y. Med. Jour., 1884, vol. 39.

The left calf was found to be about three-eighths of an inch smaller than the right, and the left thigh was also smaller than the right, to about the same degree, but there was no practical difference between the glutei muscles. The entire left leg and arm, the left side of the trunk and face were slightly cooler than the right. The patient said that this was habitually the case, but that the left hand sometimes grew hotter than the right. I will note, in passing, that an alternating difference of this sort, the foot on the anesthetic side being cooler than its fellow while the hand on the same side is warmer, or vice versa, has been observed by me in quite a number of cases of hysteria. These signs, however, shift about from day to day or even hour to hour. The muscles about the knee and ankle were so rigid that it was difficult to bend the limb at those joints, as well as at the hip. No satisfactory reflexes could be obtained on either side, but the plantar reflex was much less pronounced on the left than on the right side. The knee-jerks were exaggerated, the left more so than the right.

The patient was carefully observed and repeatedly examined by the physicians in charge until the case came up in court, when her suit was lost on the ground of no liability. Her condition after this continued the same, except that she discarded the splint, finding she could get along about as well without it. Her general nutrition did not improve, and for a number of months she was troubled with a harassing cough and lost flesh and color to a marked degree. By my advice she entered the Massachusetts Hospital, and while there a salpingitis was found and treated, but without benefit to her general condition. After her return home means were found for sending her out of town, and she gradually improved, though without material change, either as regards the extreme tilting of the pelvis or the absolute lengthening above referred to.

Being greatly interested in the case, I kept track of the patient and, three years after the accident, at a time when the trial of her claim had long been an affair of the past, I induced her to come again to the hospital for examination under ether, by Dr. R. W. Lovett and myself.[2] All the conditions above described were present and unchanged before the etherization, but the relaxation was complete, the movement of the joint was free, the measurements became normal and the whole appearance and feel of the structure of the two hips became essentially alike on the two sides. As the anesthesia passed away, the contracture of the muscles, the hyperesthesia of the skin and the pain associated with passive motion rapidly returned. It could not be said that the rule laid down by Charcot, namely, that in hysterical hip disease the hyperesthesia of the skin returns before that excited by motion, could be substantiated.

Since that period the patient has gradually gained in all respects, but up to the time of my last accounts of her, she had not entirely recovered and was still lame.

The increased length of the measurement from the anterior superior spine of the pelvis to the internal malleolus has not, so far as I know, been recognized as a characteristic of hysterical hip disease, though a search through the literature of hysteria shows that it has not been wholly unnoticed. Charcot is said to have described a case of that sort, but so far as I could judge from the reference, he speaks of it in a way to lead one to think that he regarded the signs as important.

Since the case above recorded I have seen a similar one, though less marked, the details of which it is not necessary to mention, and my colleague, Dr. Lovett, to whom my sincere thanks are due for valuable aid in this case, has likewise observed one or two of apparently similar character.

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A CASE OF TRANSIENT MOTOR APHASIA, COMPLETE ANOMIA, NEARLY COMPLETE AGRAPHIA AND WORD BLINDNESS, OCCURRING IN A LEFT-HANDED MAN; WITH ESPECIAL REFERENCE TO THE EXISTENCE OF A NAMING CENTER.*

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The history of the patient is as follows: Alfred E., aged 42 years, a coal miner by occupation, had always enjoyed good health until the onset of the present illness, which occurred four weeks previous to his coming under observation. He denied venereal infection and the use of alcohol, and his family history was negative. At the time above mentioned—four weeks—while at work, he suddenly became dizzy and weak on the left side, but power was not completely lost. There was no loss of consciousness, but he found that he was unable to talk, although he knew what he wanted to say. He also noticed that he was unable to write anything excepting his name and address. In the course of a day or two he regained the power of speech, excepting that he could neither name objects nor people. He says that he knew the name but could not express it. The muscular weakness of the left side improved rapidly excepting the muscles of the face and tongue.

When examined, the patient appeared to be a healthy, well-nourished man, of considerable intelligence for his station in life. The heart, lungs and kidneys were normal, and there was no rigidity or increased tension of the blood-vessels. He was a left-handed man excepting for his writing, which had always been performed with the right hand. The angle of the mouth was drawn slightly to the right and the tongue was protruded to the left. Weakness of no other muscles could be discovered. The knee-jerks were both active and equally so, and upon the left side there was a wrist-jerk which could not be elicited upon the right. He complained of headache, but there were no other sensory disturbances. Examination of the eyes showed nothing abnormal. He understood everything that was said to him and could converse fluently until he was required to name either a person, place or object; this with the exception of his own name and address, he was unable to do. For instance, he was unable to give the name of his married sister, who was with him, but knew when it was pronounced correctly. There was inability to name paper, a penholder, an ink-well and a watch, but he could tell at once what they were used for, and whether or not they were named correctly by another, but he could not repeat the name after it had been pronounced. He also insisted that he knew the name but could not say it. He was equally unable to name the objects when felt or heard, as in case of the watch; or objects smelled or tasted. Both printed and written words were read very imperfectly, the latter more so than the former. Single letters could usually, but not always, be read, and in attempting to read he sometimes got a word by spelling it. When words not recognized were read to him, he was unable to tell whether it had been done correctly or not. It was noticed that the more common the word the more likelihood there was of its being recognized. Figures, he read correctly, but simple arithmetical calculations could not be well done; for instance, he knew how much twice two was, but could not tell how much five times two made.

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[2] It is proper to say that the test by etherization had been proposed at an earlier stage, but was not carried out on account of the unwillingness of the patient and her friends to submit to it.

* Read by title before the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

With the exception of his name and address, spontaneous writing was impossible; in attempting it, after making one or two letters imperfectly he would give up in disgust. Writing from dictation could be done somewhat better, but still very imperfectly. For example, the sentence: "John Smith is no good," was given him. He wrote, with much effort: "John Smith is no"—the word "good" being attempted but unintelligible, and he was unable to proceed further. He could copy fairly well for a while, but would soon tire and be unable to proceed further, and he was unable to read what he had written. Figures could be made correctly.

Improvement gradually took place, the power of pronouncing names first becoming better. At the end of two months he wrote a letter home and was able to name, in some instances after some thought, all objects shown him, excepting a lead pencil.

To sum up the symptoms of this case, we have in a man who was left-handed for all acts excepting writing, which was performed with the right hand: 1. Loss of the power of naming, whether the object was seen, felt or heard, smelled or tasted. The name, however, he claimed to know and recognize, whether it was pronounced correctly or not, but he could not then repeat it. 2. Marked but not complete word blindness, with preservation of the power of recognizing and reading numerals. 3. With the exception of his name and address, inability to write spontaneously; better, but still very imperfect, power of writing from dictation, and inability to read the copy. 4. There was paresis of the muscles of the tongue and lower part of the face on the left side.

From the suddenness of the onset the lesion was evidently vascular in origin—either an embolus or hemorrhage. All of the symptoms excepting the inability to pronounce names can be explained by an incomplete involvement of the angular gyrus on the right side. A lesion limited to this locality does not, however, explain the peculiar form of inability to name objects exhibited by this patient. From the facts that the patient, by means of his internal language, could call the name into consciousness, that he could recognize whether it was pronounced correctly or not, but could not repeat it, we are justified in assuming that the disability was motor and not a sensory defect. It differs from the so-called optic aphasia of Freund in that there was loss of the power of naming, even after the stimulation of other senses than sight, and that there was ability to call up the name but inability to say it. There would seem, therefore, to have been no interruption of the pathways between either the primary or higher visual centers and the center for auditory word memories; it would seem likely also that a lesion destroying these tracts would also cause hemianopsia.

There has been some discussion of late as to the existence of a concept or naming center. After Broadbent, Mills has been the most earnest advocate of its existence. The case just reported would seem to add some proof to the correctness of the theory that such a center exists.

It will be remembered that the patient could not name objects after stimulation of either the senses of sight, touch, hearing, smelling or tasting, and also that the inability to pronounce the name was due to a forgetting of the muscular movements necessary to say the word, and not to loss of the power of calling the word into consciousness. These facts eliminate loss of function of the centers for preserving the sensory memories, viz., visual, tactile, auditory, olfactory and gustatory, as a cause. It is not likely that the center of motor speech memories in Broca's convolution was destroyed, as he could use all other words with facility. It does not seem improbable, then, that this disability was due to the destruction of either a tract or tracts leading from the region or regions where names are called into consciousness to the motor speech center. It is, therefore, necessary to assume that either the lesion cut a number of tracts leading respectively from the centers of visual, tactile, auditory, olfactory and gustatory memories to the motor center, or else that tracts from each of these centers converge to a common center where the memories of names are stored up to be called into consciousness by stimulation of one or all of the percipient centers, and that from this center a tract passes to the motor speech center, and that this tract was destroyed. While the occurrence of the former is conceivable, that of the latter seems more probable, especially so as a lesion to cut all of the tracts mentioned would have to be of considerable extent, and from the slight amount of shock present at the time of onset, this was probably not the case. The possibility of such a lesion occurring has been considered by others. Langdon[1] has reported the case of a man who had lost the power of naming objects seen and felt, but who could name them when any of the other senses were excited. He knew what the object was used for and whether the name was pronounced correctly or not by another, but he could not repeat it. In addition, he had word and letter blindness, agraphia due to muscular disability, as he could write with the left hand, right homonymous hemianopsia, right hemiplegia and anesthesia of the right hand and forearm. Langdon believed that the lesion involved the posterior limb of the left internal capsule and extended outward into the centrum ovale, but did not involve the cortex. He believed that inability to name objects, either seen or felt, was due to a cutting of the tracts leading from the centers of visual and tactile memories to Broca's convolution. He afterward says that it is also possible that the symptoms might be produced by a cutting of fibers going from these centers to the naming center and regards the existence of such a center as possible but not proven.

Bramwell,[2] in discussing a case of total inability to spontaneously name objects and persons, with, however, ability to repeat names when heard, associated with slight word blindness and agraphia, says that this inability, viz., loss of the power of naming, may be due to destruction of the "naming" center, which he assumes is part of the superior temporal convolution; destruction of the nerve fibers which pass from the "naming" center to the motor vocal speech center; and destruction of the motor vocal speech center by which these impulses are emitted. To these Mills very properly adds "destruction of the sensory percept centers and tracts leading from these centers to the naming or concept center."

If we assume that the belief that a naming center exists offers the best explanation of the occurrence of the peculiar form of anomia presented by this patient, the question arises: Where is this center? This has not yet been answered satisfactorily, and this case does not offer us much help other than that from a consideration of the other symptoms presented, it seems probable that it is somewhere in the region of the center for auditory memories, where it has been placed by others. Mills[3] has located it in the third temporal convolution, but his case, reported as evidence of this, is not conclusive as there was destruction of other neighboring portions of the brain, and other forms of aphasia —word blindness, agraphia, etc.—were present. Hammond[4] has recently reported a case due to traumatism, in which the patient had no other symptom excepting the loss of ability to name, and knew the proper uses of the objects presented, but could not pronounce the name after he had heard it. When operated on, a clot was found covering the entire superior temporal convolution on the left side, and at the junction of the posterior with the middle third of the gyrus there was a hole into which a probe could be introduced to a depth of about an inch and a half, at a right angle to the surface of the gyrus. Removal of the clot was followed by recovery. Hammond believes that there is a certain region of the cortex in which the memories of names are stored; he thinks that it is probably a part of the center for auditory memories which has this special and isolated function. Bramwell,[5] in his discussion of the case, before mentioned, expresses the same view. That a so-called center may be subdivided into parts possessing different functions would seem probable from the observations of Hinshelwood[6] and others who have reported cases in which there was letter but not word blindness, the converse of what should take place if the faculty remaining depended on first-learned and consequently, as it were, more deeply-rooted impressions.

It will be remembered that in Hammond's case, before mentioned, there was no word deafness, and yet there was a lesion involving part of the left superior temporal convolution. At this point it may be well to again call attention to the fact that in the case just reported, there was but slight letter blindness, and that the power of reading and writing numerals was preserved.

While recognizing the uncertainty of the correctness of an opinion based alone upon clinical symptoms and theorizing, it seems to the writer that the most probable explanation of the inability to name objects presented by this case is: that there is a naming center, probably somewhere in the temporal lobe, possibly part of the superior temporal gyrus, and that a tract leading from this center to the center for the preservation of the motor memories of speech was damaged. Such a tract would likely run through the insula and thus would be in a location easily reached by a lesion that had, judging from the word blindness and motor paralysis present, involved the angular gyrus and extended subcortically in a direction to impair the function of the fibers running from the centers for the lower part of the face and tongue to the internal capsule.

1629 Locust Street.

REFERENCES.

1. Langdon: Phila. Med. Jour., vol. iii, p. 504.
2. Bramwell: Brain, 1898, p. 343.
3. Mills: Jour. of Nerv. and Mental Dis., vol. 23, p. 1.
4. Hammond: Ibid., vol. 26, p. 754.
5. Loc. cit.
6. Hinshelwood: Letter, Word and Mind Blindness.

THE PHARMACOLOGY OF THE NITRO-SUGARS.*

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The nitro-sugars are in reality nitrate-esters, and are closely allied to nitroglycerin and other members of this class. They were first prepared, along with other organic nitrates, by Schonbein[1] (1845), then by Sobrero[2] (1847) and Flores Demonte and Minard[3] (1847). The whole class of bodies obtained by these observers was made by simple nitration, and this led to the name "nitro" being given to them. Subsequently another class of substances possessing entirely different physical and chemical properties was obtained, and, on reduction, yielded amido compounds. To these the name of nitro-compounds has been restricted. It was shown later that nitroglycerin did not yield an amido compound and, therefore, it could not be a true nitro body. It is in fact a nitrate.

The differences may be expressed, taking the derivatives of etham as examples, thus:

$C_2H_5—NO_2$	$C_2H_5—ONO$	$C_2H_5—ONO_2$
nitro-etham	ethyl nitrite	ethyl nitrate

As nitro compounds yield amido compounds on reduction—$C_2H_5NO_2$ yielding $C_2H_5NH_2$—it is evident that their nitrogen is directly connected to the alkyl radical, whereas nitrites, which are isomeric with them, must have their nitrogen linked to the alkyl radical through the intermediation of an oxygen atom, as there is no other possibility. Nitrates which are built up in the same way as nitrites must also have their nitrogen united to the alkyl by an oxygen atom. Recently the formula R-OONO has been suggested, but into this question it is unnecessary to enter. It may perhaps be well to restate that the nitro-sugars belong to this nitrate class.

Pharmacologically the interest which surrounds the nitrites and many organic nitrates is their peculiar affinity for unstriped muscular fiber, especially that of the blood-vessels. Injected into the circulation, they lower blood-pressure; perfused through the vessels of isolated organs, they dilate them; and administered to man, they lower the tension of the pulse—effects due to a paralyzing influence on the unstriped muscle of the blood-vessel wall.

All volatile or soluble nitrites, inorganic or organic, exert this action, but not all nitrates. Inorganic nitrates and organic nitrates corresponding to them, e. g., urea nitrate, have no influence. The organic nitrates which possess this effect are those in which the nitrate group has replaced an alcoholic hydroxyl. And all of them, with a few doubtful exceptions, belong to the aliphatic group. Ethyl nitrate, which may be regarded as ordinary alcohol with the OH replaced by NO_3; glycerol trinitrate (nitroglycerin), in which the 3(OH) of glycerin have given place to $3(NO_3)$, and erythrol tetranitrate, in which the 4(OH) of erythrol (a tetrahydric alcohol) have been replaced by $4(NO_3)$ are examples in point.

The action of these three substances, although similar in kind, is of very different degree. Nitroglycerin in minute amounts possesses a powerful but comparatively transient action; erythrol tetranitrate in much larger amounts, a more gentle and prolonged effect. The difference in action is due in the main to a difference in solubility—erythrol tetranitrate is a crystalline solid and much less soluble in water than nitroglycerin; mannitol hexanitrate, which is still less soluble, exerts a correspondingly weaker effect.[4]

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* Read by title in the Section on Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Philos. Mag., xxxi, p. 7.

[2] Comptes Rendus, xxiv, p. 247.

[3] Ibid., p. 390.

The nitro-sugars possess an action similar to these solid organic nitrates. They too are solid, but the three investigated—glucose nitrate [$C_5H_6(NO_3)_5CHO$], levulose nitrate [$C_5H_6(NO_3)_5CO$], and saccharose nitrate [$C_{12}H_{14}O_3(NO_3)_8$]—are non-crystalline. At ordinary temperatures they are of a pasty consistency; at low temperatures they are brittle solids. Their solubility in water is very small; they gradually decompose in air, and like all bodies of this class, they are explosive.

Their pharmacologic action corresponds to their chemical constitution and solubility in water. A saturated solution in 40 per cent. alcohol injected into the circulation causes an immediate and somewhat prolonged fall of blood-pressure, and when injected through a catheter into the stomach a similar, but delayed, slighter and more prolonged fall is obtained. Perfused through the vessels of an isolated kidney, they all cause distinct dilatation, apparently of almost equal degree. They also exert a similar action on the pulse of man, but the effect is not great. The following figure shows that produced by 0.1 gram of glucose pentanitrate:

On urinary secretion the effect is slight. In the few experiments made the variations seemed to follow those of the blood-pressure.

These bodies, in fact, act in every way like the other solid organic nitrates of this class. Like them, they are readily reduced on boiling with dilute alkalies, and the explanation of their action, whatever it may be, is the same. They are, however, much less stable and much less active than erythrol tetranitrate, and on this account it is doubtful if they will find a place in therapeutics. Strange to say, they possess a very bitter taste.

THE CLASSICAL CESAREAN VERSUS PORRO CESAREAN.*

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As the present year completes the nineteenth century and we are about to be ushered into another with all its responsibilities, it is natural for those of us who are interested in the history of midwifery to look over the past and also think of the possibilities of the future.

The remarkable advance which has been made, particularly in the latter half of this century, has revolutionized our science, resurrecting operations which were in the writer's student days spoken of only in condemnation. We refer to the classical paper on the "Contagiousnss of Puerperal Fever," by Oliver Wendell Holmes, in 1843; next, the work of Semmelweiss, of Vienna, in 1846, and later that of Pasteur in bacteriology, and its application to surgery by Lister. The works of these illustrious men have established forever the fact that the so-called childbed fever is an infection.

The antiseptic era has revolutionized obstetric surgery. It has made the physician all the more appreciate the fact that the problem before him for solution is a grave one and that at any moment in the progress of labor he may find himself facing an operation which must be performed, not only intelligently, but immediately.

This century has given us the child-saving operations: axis-traction for the forceps, the modern symphysiotomy, and the modern Cesarean section.

The century is closing with our science placed on a higher plane than ever before in its history. The obstetrics of to-day conserves the child's interests more than it ever did in the past. It makes us all the more mindful of the fact that we have two lives at stake and that we have no right to sacrifice one to save the other.

The twentieth century still has much to accomplish. Let us hope that with the advance of civilization the midwife will soon be a thing of the past, or else remedy the evil by compelling her to attend a full course in medical training, for none other than the physician has a right to assume the responsibility of an obstetric case.

My object in this paper is to defend to the best of my ability the classical Cesarean section as the operation of choice whenever it is essential to deliver by abdominal section; also to express my views in answer to the question: Does the life of the child alone indicate the Cesarean section? My conclusions are based on an experience gleaned from my private work and the work of two teaching maternities—the Philadelphia Lying-in-Charity for twelve years, 8000 cases, and the Medico-Chirurgical College Maternity for six years, 1500 cases: also the study of the published results of others.

In these two maternities thirteen successful Cesarean sections have been performed. Of this number six were by the writer, seven by my colleagues. Twelve of these cases were the classical Cesarean by choice; one was a Porro by necessity.

The Cesarean section is so frequently performed now and—in the hands of the experienced—with such a low mortality that the day, we believe, is not far distant, if it does not already exist, when, for the child's interest it will be elected in some cases over high forceps, version, induction of premature labor, and symphysiotomy. If the mortality is as low as we claim, the operation will be more generally resorted to and we may expect in the future a new chapter added to obstetrics.

If we follow closely the recent literature on the subject we believe that the above statement as to mortality can be substantiated. Each month is adding to the accumulating evidence.

A recent paper by Reynolds[1] on "The Conditions which Govern Success in the Sanger Cesarean Section," embodies my views so precisely that I will take the liberty to draw from his text. He reports fourteen successful cases and makes the following two propositions:

1. "That when the mother's vitality has been seriously lowered by either septic infection, prolonged labor, or complicating disease, the mortality of the Cesarean section is so high that it is an unjustifiable operation, and in such cases symphysiotomy should be done when it is applicable or, if it is not, craniotomy to the living child should be unhesitatingly preferred to the section, in the interests of the mother."[2]

2. "That when the mother is in good condition, that is, when she is generally sound, uninfected, and not

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[4] Bradbury: The Lancet, 1895, ii, 1205.

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[1] Obstetrics, January, 1900.

[2] Always excepting cases in which the hopeless condition of the mother leaves the child's interests only for consideration.

exhausted by long labor or by prolonged efforts of delivery by the forceps, the Cesarean section is so safe an operation that it may be used unhesitatingly in cases at term, whenever an intrapelvic deformity would be fatal to the child, and may often be preferred even to the induction of premature labor, on account of its superiority in the saving of fetal life."

He analyzes the two largest lists of Cesarean sections recently published, that of Everke's 35, and Leopold's 100.

Excluding the cases of hysterectomy and those infected, or else exhausted by long labor, that were operated on, he finds 74 cases come under his second proposition.

To this number he adds his 14 cases, making 88. I will take the liberty to make the same analysis of the 13 cases herein mentioned and will remove one case, a hysterectomy, leaving 12 cases operated on in good condition, by hysterotomy. This makes a grand total of 100 cases. In this series there were but two deaths; both cases were operated on many years ago when our technique was not as good as it is now.

"The most favorable showing for the neglected or complicated cases, that of Leopold, gives almost one death in every four." It would seem from these statistics that the Cesarean section, if anticipated and not performed as a *dernier ressort,* is accompanied with so low a mortality that the life of the infant would be a sufficient indication.

Accepting this proposition it becomes our duty to be prepared to operate by abdominal section in all cases giving the history of one or more labors resulting disastrously to the infant.

In pelvic deformity the patient in many cases should be given the test of the first stage of labor and if the head is fixed at the inlet the forceps may be applied and judicious traction made; failing in this, abdominal section should be resorted to.

For eclampsia developing at or near term when for certain reasons it does not seem wise to resort to manual dilatation of the cervix, abdominal section will rapidly empty the uterus and enable us to bring about free blood-letting, which is often beneficial. Olshausen advises Cesarean section in severe cases of eclampsia occurring before the onset of labor and with undilated or unyielding soft parts.

Hillman reports a case of eclampsia in which he was forced to perform Cesarean section. The woman, a primipara, 23 years old, came under observation after she had had six convulsions. She was cyanotic and comatose; pulmonary edema, no labor pains, os completely closed. The operation was performed to save the mother's life. It could not be decided whether the child was alive or dead. After the uterus was emptied there were no further convulsions and immediate improvement was followed by recovery. The child was still-born.

For placenta prævia, particularly the central variety, when the patient has not been depressed by excessive hemorrhage, abdominal section will conserve the child's interests, and the patient will escape the hemorrhage subsequent on any operative interference per vias naturales.

For prolapse of the cord complicating the vertex, especially in cases where the cord can not be reposited and podalic version is entertained, here, in some cases, section may suggest itself.

There exists a difference of opinion among American Cesareanists as to which is the better method of operation, the Sanger or the Porro. The writer believes that the same conservatism which has cared for the child must be applied to the mother, and that a mutilating operation should be only one of necessity.

The celio-hysterotomy has many advantages over celio-hysterectomy. We can not agree with those who believe that a woman should not be exposed to the danger of a second Cesarean.

Celio-hysterotomy has a lower mortality, can be performed more readily, and above all it is the operation which conserves the mother's interests and by so doing broadens the field for the Cesarean section. On the other hand, celio-hysterectomy is mutilating, has a higher mortality and should only be performed when the patient is infected or when some tumor of the uterus makes it necessary. Celio-hysterectomy should not be performed simply to prevent future pregnancy, when ligation of the Fallopian tubes—which is less mutilating—will accomplish the same purpose.

In reviewing my six cases we find the following:

CASE 1.—Flat rachitic pelvis; also extensive fibroids of the uterus. Patients two days in labor, infected. Hysterectomy was necessary.

CASE 2.—Scolio-rachitic pelvis. A second Cesarean, an elective operation. Hysterotomy performed.

CASE 3.—Coxalgic pelvis; a II-pari; first labor ended in craniotomy; operated on during labor. Hysterotomy.

CASE 4.—Generally contracted pelvis. Patient has had six dead children. Elected date. Hysterotomy.

I wish to place on record my fifth and sixth cases, operated on in February and March of this year.

CASE 5.—A third Cesarean for scolio-rachitic pelvis. Mrs. C.; married; aged 34 years, was admitted to the Medico-Chirurgical College Maternity Feb. 13, 1900. In September, 1892, she was delivered by the elective Cesarean[3] section in Kensington Hospital for Women, Philadelphia. Dr. Charles P. Noble operated, the writer assisting.

Five years after this, in 1897, she was admitted to the Philadelphia Lying-in-Charity in her second pregnancy, and well advanced in the last month. With the history of this artificial delivery and the patient again in the last week of gestation a second Cesarean seemed indicated. The staff of the hospital agreed with me in this opinion. Examination of the patient proved the fetus to be of good size, presenting by its pelvic pole. The following measurements were made: intraspinous 27 cm., intracristal 28 cm., external conjugate 17 cm., diagonal conjugate 8.5 cm., true conjugate 7 cm.

A second elective operation was performed Aug. 12, 1897. A free incision was made through the abdominal wall to the side of the old linear scar. Several omental adhesions were now loosened, then it was found that the uterus and abdominal wall were firmly united at the lower angle of the old incision. The uterus showed no evidence of the result of the first operation. The silk sutures used could not be found. Although this strong attachment between uterus and abdominal wall interfered with the compression of the organ it did not seem wise to make the dissection.

A clean incision was now made parallel with the long axis of the uterus just sufficiently large to permit the extraction of its contents. The fetus, presenting by the breech, was delivered head first through the incision. The uterine wound was closed with interrupted silk sutures just escaping the mucosa. For the abdominal wound silkworm gut was used.

The third Cesarean was performed in February last, at the Medico-Chirurgical College Maternity. In this operation the patient had the test of a thirteen-hour labor without progress.

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[3] Annals of Gynecology and Pediatrics, January, 1893.

The incision was this time made over the old scar. Because of the firm union between the uterus and abdominal wall at the lower angle of incision a transverse fundal incision in the uterus was made. The child, a female weighing 7½ lbs., was with ease removed, and the uterus nicely contracted.

The puerperium was uneventful. Mother and child left the hospital in four weeks. Both were in good condition.

CASE 6.—An obliquely contracted pelvis. Mrs. B., a multipara, aged 37 years, was admitted to the Philadelphia Lying-in-Charity, Feb. 28, 1900. The history of her previous labors is briefly as follows:

The first labor was long (52 hours) and finally terminated by the use of forceps. The child was dead.

The second labor, also long, resulted in craniotomy. As a result of these two instrumental deliveries the soft parts were badly torn, demanding two years ago the removal of the left ovary, trachelorrhaphy and a ventrofixation of the uterus. The patient comes to us a third time pregnant, near term. Her previous history is explained in an examination of the pelvis. It is contracted and the left oblique measurement is much encroached upon.

Cesarean section was performed after the test of a fourteen-hours labor. An interesting point in the operation was the effect that pregnancy had had on the fixation of the uterus. Fortunately the uterus was not firmly attached, else we might have had another cause for obstruction.

The growing uterus had left its point of attachment and a cord-like band six inches in length had formed, extending from the fundus over the anterior wall of the uterus to the point of attachment. A longitudinal incision was made in the uterus and the child easily removed. The infant was a male weighing 9¼ lbs. Mother and infant left the hospital in one month in good condition.

In conclusion, I would say:

1. That the life of the infant alone, under certain conditions, justifies the Cesarean section.
2. That the classical Cesarean has as low a mortality as an easy ovariotomy. Is not the life of the child then as good a reason for performing a simple abdominal section as are the vague symptoms for which operations are daily done?
3. That the classical Cesarean is less mutilating than the Porro Cesarean, and, with the patient in good condition, is therefore the operation of choice.
4. That the Porro Cesarean has about the same mortality as has hysterectomy for fibroids. That it should be performed when the patient demands it, or when infection or a neoplasm of the uterus makes it necessary.
5. That it is the duty of the practitioner in attendance on a multipara with the history of one or more dead children, to be prepared to perform the Cesarean section. If he does not possess the necessary surgical training then he should call to his assistance the obstetric surgeon.

1953 Locust Street.

Lumbar Puncture in Miliary Tuberculosis.—Dr. William Osler recently showed, at his clinic, specimens from a patient who had died of acute miliary tuberculosis, and in whom the diagnosis had been made by lumbar puncture, the fluid exudate obtained showing an enormous number of tubercle bacilli. The disease is almost invariably mistaken for typhoid fever.

OCEAN CLIMATES: THEIR EFFECTS AND THE CASES THEY BENEFIT.*

JOHN A. ROBISON, A.M., M.D.
CHICAGO.

We are all familiar with land climates, for obvious reasons, but a study of ocean climates is desirable, because a sea voyage is often beneficial when a change of land climate is of no avail. And why this is true is readily comprehended when the differences in the climates are observed.

1. The climate of the sea is more equable on account of the temperature being varied by ocean currents instead of winds, as is the case on land. That this is true is proven by the fact that the hottest and coldest months on land are August and February, respectively, because the winds are scorching and freezing during those months, while the hottest and coldest on the sea are September and March, because the southern cauldrons are at their highest and lowest temperatures during those periods.

2. The sea air is warmer. While this statement applies to the parts of the sea which are the ordinary paths of travel, yet as a statement it is true in general, as Arctic explorers have said it was warmer on the sea than on land—or ice. The warmer air is more sedative, and tends to allay nervous irritability of tissue and body.

3. The air of the sea is more nearly aseptic, is free from dust, and contains more ozone than land air, except in the highest altitudes. And it is almost continually in motion.

4. The sea air contains more moisture than land air, and this moisture is laden with the volatile elements of sea water. The dew point is lower than on land, and the sensible temperature is also somewhat lower.

Besides these points of difference, it is interesting to note that the sea currents flow so that the warmest currents hug the shores of the coldest side of the continent, as the so-called gulf stream follows our Atlantic coast, while the Japan stream veers away from our warm western shores. The rising and lowering of the temperature is slower than on land, for the isotherms travel only at the rate of twenty-two miles a day, while the cold or hot waves on land travel with the velocity of the wind.

Thus we see that the sea affords conditions that favor slow travel. And in the days of the sailing vessel it was quite the proper thing for the invalid to take a sea voyage, where he could enjoy pure air, sunshine and the breezes.

What are the effects of a sea voyage? The equability of the climate permits, and the desires of the traveler demand, the spending of the most of his time in the open air, and the pure air is stirred in motion by the continual sea breeze and fans the invalid, and the tonic influence of the air creates appetite, and the enforced rest revives the exhausted body. Quiet of body and mind, freedom from the worry of business and domestic cares assist mother sea in restoring the tired invalid to health. Sea air has a sedative effect on the nervous system, increases metabolism, weight, appetite, and inclination to sleep, and so, to those with whom it agrees, it is a sedative tonic.

From a knowledge of these effects we can readily perceive the class of cases which sea air will benefit. In addition to the general effects enumerated, the air has, also, a sedative effect on the respiratory passages. Therefore a sea voyage should benefit a large number of cases of diseases of the respiratory tract, and we find that it is true that it is, in the majority of cases, a specific for hay-fever, whooping-cough, purulent and chronic bronchitis, and of benefit in incipient tuberculosis and tuberculosis where cavities or empyema exist. Walshe gave it as his opinion that a sea voyage, especially in the case of young adult males, will occasionally work more effectual change in the phthisical organism than any other single influence or any combination of influences with which he was acquainted. Formerly sea voyages took the place of the high altitude treatment of consumption. The English recommended the trip to Australia or New Zealand because it afforded the longest spell of marine influence. Williams gives statistics of 65 phthisical patients who used sea voyages: 41 were in the first stage, 17 had the right lung affected, 12 the left, and 12 had both lungs affected. In this group 5 had the disease arrested, 19 decreased, 4 remained stationary, 4 advanced, and 9 extended; 58 per cent. were improved, 10 per cent. remained stationary and 32 per cent. were worse; 24 were in the second and third stages, 5 had the right lung in the second or third stage, 5 had this lung in the third stage and the left in the first; 7 had the left in the second or third stage and 7 had the left lung in the second or third stage and the right in the first. Of this group, the disease was arrested in 5 cases, decreased in 31, remained stationary in 7, advanced in 9, advanced and extended in 3, and extended in 10; 55 per cent. were improved, 11 per cent. remained stationary, and 34 per cent. were worse.

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* Read at a meeting of the Chicago Laryngological and Climatological Association, Nov. 15, 1900.

Altogether improvement was noted in 77 per cent., and 22 per cent. were worse. In the cases where softening or excavation was present, 43.75 per cent. were improved. Williams remarks: "The general improvement consisted of gain of appetite, color and strength, and above all, of weight; sea voyages surpassing all the other climatic groups in this particular. Twenty-five of these patients were weighed before and after the voyages and the result was 17 had gained, of whom 9 had gained more than a stone, and the rest from 5 to 12 pounds. In 3 cases the fact of gain only was recorded. In 2 patients the weight remained stationary, and 6 lost weight. The large gain of weight is to be explained by the improvement of the appetite, the regularity of the meals, the plentiful supply of food at them, and the lack of opportunities for exercise."

Williams believes the forms of phthisis that are benefited are: 1, the scrofulous or strumous form; 2, the hemorrhagic type marked by limited consolidations and large recurrent hemoptyses, and lastly the chronic unilateral cavity cases, without great local irritation. He believes the sea air promotes the fibrotic process, and when there is a septic discharge it has also a healing influence, and the results in cases of empyema are sometimes marvelous. Therefore, he recommends sea voyages in chronic pleurisy and empyema, chronic bronchitis, various forms of scrofulous disease, hemorrhagic phthisis, unilateral tubercular cavities and neuroses, the result of overwork or insomnia.

But the day of trips on the sea in sailing vessels is apparently over, for the present generation is not content with the slow methods of the past, but wishes to regain health in a hurry. And they prefer to go to some altitude resort where they can easily return to their homes on the first appearance of home sickness, and keep in touch with their world of business. An ideal trip for such patients is a combination of sea travel and mountain climbing, such as is found in a trip to Norway, for example. A trip across the Atlantic prepares the invalid for a continuance of the journey by steamer along the coast, and among the fjords of Norway. The monotony of the sea voyage is interrupted by short journeys across the land, over the mountains in wagons or carts in a bracing and pure climate, where the best of food can be obtained and the novelty of traveling through a new country adds pleasure to a trip which otherwise might become irksome. The wayside trips are never far enough from the sea to be removed from the effect of the sea air, and the confinement of the vessel is removed. The greatest objection to such journeys is the expense, yet it does not amount to so much more than the expense of traveling on land as to be an insurmountable objection.

Asthma is frequently benefited by a sea voyage, notwithstanding the humidity of the sea air. But in this disease the same rule holds good as in prescribing a change of air on land: what is beneficial to one patient may be a source of torture to another; so no rule of advice can be laid down as infallible.

Scrofulous affections, other than pulmonary, are frequently cured by prolonged sea voyages, and I know of no better cure for the malarial dyscrasia, for the patient is entirely removed from all the conditions which tend to prolong this condition.

Debility as evidenced by chlorosis, anemia, malaise, loss of flesh and strength, insomnia, nervous irritability and similar symptoms is often removed by a sea voyage.

Chorea is frequently benefited, as well as some cases of rheumatism, contrary to the ordinary rule that rheumatics should not be in a damp climate. But the exposure which patients often are subjected to in the way of humidity at sea is often without bad results, like the patients I have sent to the mountains with asthma, who could wade through slush and snow and get their feet wet without any sign of asthma.

As already intimated, the class of cases which are benefited in highest degree are the overworked, melancholic, the brain-goaded sufferers, the women who are harassed by domestic cares, or society dissipations, the children who are nervous and weakly, and, in short, the army of neurasthenics. In this class of cases it is a question whether the improvement almost invariably following an ocean voyage is due so much to the change of climate as to the change of scene and entire change of life.

I have purposely omitted the disadvantages connected with a sea voyage, for the reason that the climatologist can not refer his patient to any spot on earth where there are not disadvantages, and if we are to scientifically study the effects of various climates, we must know their physiologic effects, and then compare the value of different varieties of climate by admitting that, aside from variations in climatic conditions, all the others are equal. Admitting, therefore, that all other conditions are equal, I am inclined to believe that the advantages of a sea voyage for a large number of our patients who seek change are often overlooked, and I believe the modern comforts of an ocean voyage offer inducements to patients which should be accepted in many instances, and my colleagues will probably agree with me when I say that no travel causes the tired-out professional man to renew his strength quite so quickly as ocean travel, barring the individuals who have idiosyncrasies against this form of treatment on account of incoercible seasickness.

297 Ashland Boulevard.

ADHESIVE RUBBER DAM FOR THE PREVENTION OF POSSIBLE INFECTION AT THE SITE OF OPERATION.

J. B. MURPHY, M.D.
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Infection of wounds during operation may always be traced to contact with materials, and is probably rarely if ever due to contamination from the atmosphere (Dr. P. L. Friedrich, *Arch. für Klin. Chir.*, B. 59.). The common sources of infection of operation wounds are as follows: 1. Instruments. 2. Sponges and dressings. 3. The hands of the operator or assistants. 4. The skin of the patient. 5. Towels, sheets, etc., used about the wound.

The exhaustive researches of Fürbinger, Ahlfeld, Koch and others emphasize the difficulty of rendering the hands aseptic, for after a short period of exposure they again become septic from their own secretions, as has been shown by cultures made for the inner surface of rubber gloves. We have been able to overcome this difficulty by the use of such gloves.

The sterilization of the skin surface in the field of operation is practically as difficult and uncertain as is the case with the hands, as shown by Mark Kummel, Lauenstein, Samter, Senger, and others. The danger of infection from this surface is always present a short time after it had been prepared, because of the secretions from the sweat and sebaceous glands, which the sterilizing solutions have been unable to reach. Samter secured sterility in 20 per cent. of his cultures after thorough disinfection; Lauenstein, 44 per cent.; after preparation by Fürbinger's method, not a single case was free from germs, showing that asepsis of the skin is not often obtained.

For the past two years the author has been endeavoring to secure a sterile, adhesive rubber dam, which, when placed on the skin, would remain firmly adherent to it throughout the operation, at the end of which it might be removed. The mechanical, chemical and physical difficulties proved great stumbling-blocks, and one manufacturer after another declared it would be impossible to produce such an article. Finally all the difficulties were overcome, and an adhesive rubber dam produced[1] which answers all the purposes mentioned above. It is sufficiently adhesive to stand considerable traction without separating from the skin, and is not affected by water, antiseptics or wound secretions. It is prepared and sterilized, placed in sterile envelopes and these, again, placed in other envelopes, much after the method used in preparing the dry sterilized catgut. Thus prepared, the dam remains in a perfectly sterile condition, and can be applied to the prepared skin, and, as an extra precaution, its surface washed with any of the antiseptics or sterilizing solutions. If it is not sufficiently adhesive a little ether spread over its surface will increase its adhesive properties. It is elastic and gives with the skin, being, in reality, a non-secreting, sterile, artificial derma, for the period of operation.

Owing to its elasticity, it may be applied to any part of the body. For laparotomies, it is spread over the abdomen, extending onto the symphysis pubis and covering the umbilicus. For herniotomy, it covers the inguinal region and genitalia, and it is in this operation that it is of the greatest practical importance, for we know that this field of all others is most frequently infected from the surrounding parts. In vaginal operations, it covers the entire perineum and prevents the soiling of the field from the rectum. In amputations, it entirely encircles the limb at the seat of operation. In operations on the eye, it covers all the remaining parts of the face. In fact, there is no part of the body to which it may not be readily applied, as is shown by the accompanying photographs.

METHOD OF APPLICATION.

The field of operation is prepared in the usual way. It is then thoroughly dried, washed with ether and the rubber is applied, the latter being put slightly on the stretch as it is brought in contact with the skin. The small quantity of ether retained by the skin increases the adhesive power of the dam. After it is applied, it is washed with alcohol or with any other sterilizing solution. The incision is now made through the dam, simultaneously with that in the skin, and to the same extent, as it stretches even more readily than the latter and there is no trouble in retracting it. The dam remains in position until the sutures are inserted and tied, after which it is lifted at one end, put a little on the stretch and divided at the points of suture in a manner similar to that of dentists in removing the dam from teeth.

Its second practical application is in all suppurating and draining wounds. In these cases it should be left on until suppuration and discharge have ceased so that it may protect the skin and prevent the erosion and eczema which are so frequently caused by the irritation of a purulent discharge. For this purpose it is particularly applicable in cases of artificial anus, cholecystostomy, gastrostomy, nephrotomy, suprapubic cystotomy and a draining, suppurative, circumscribed or general peritonitis.

We have used it in a number of cases at Mercy Hospital, with gratifying results, and feel that its simplicity of application and its self-evident advantages need no further word of comment.

100 State Street.

Politzer Air Douche for Inflating the Stomach.—Our foreign exchanges mention with approval Oehler's suggestion that the Politzer air-bag can be made to serve the purpose of inflating the stomach for diagnostic purposes. The subject reclines and takes a swallow of water. The tube of the air-bag is inserted in the nose, and as he swallows the water the air is expelled from the bag and passes with the water into the stomach. *After repeating this simple maneuver three times* the stomach is usually so inflated that its outlines can be accurately determined and its motor function tested by the peristalsis induced by the air.

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[1] By Johnson & Johnson.

THE PRESENT STATUS OF SPINAL SURGERY.*

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NEW YORK CITY.

(Continued from page 1117.)

FRACTURES (CONTINUED).

In those cases where no improvement follows the recovery from the shock, and yet the suspicion remains that a complete crush of the cord has not occurred, we should operate immediately. This divides the cases, therefore, as follows: 1. Those that evidently have complete destruction of the cord; they should not be operated on. 2. Those where, following the recovery from the shock, it is evident that the lesion of the cord has not been completely destructive and yet no improvement is noted. Operation here should be done as soon as these facts are determined. 3. Those where the lesion of the cord is incomplete and where the symptoms of compression are extending as evidenced by increasing paralysis and the enlarged area of anesthesia. Here operation should be undertaken immediately, as there is a hemorrhage, an inflammatory thickening, or some acute process present that threatens the destruction of the cord unless it is controlled. 4. Those in which improvement is noted at first but is arrested later. Operation in these should be done as soon as it is settled that the improvement has ceased. 5. Those who made a full recovery or almost so under the usual conservative methods, where the paraplegia or other symptoms develop at a later date. This is probably due to compression from callus, and the operation should not be delayed any longer than is essential to establish the fact that there has been a loss of function.

In our former paper we tabulated 103 cases of traumatic injuries to the spine, and divided them into two series, the pre-antiseptic and the antiseptic. In the former the deaths were 63 per cent.; in the latter 50 per cent. We have now been able to tabulate 227 cases in 185 of which all of the facts in regard to the result are known. This includes the 103 cases formerly tabulated. Of this number 59 died within a few days, and therefore the death may be said to have been hastened by the operation itself; 32 died at a later period, and usually from complications not resulting from the operative interference—91 deaths, therefore, in all, or 49.18 per cent., which corresponds very closely to my former statistics. Of course, this includes the cases dating back to the pre-antiseptic era, but it is hardly worth while at the present time to eliminate them from our statistics. If only those dying within the first few days are counted against the operative statistics the percentage is only 31.89. With these statistics before us there can be no doubt about the advisability of operative procedure, as compared with the conservative treatment. These figures could be still further improved by throwing out the pre-antiseptic cases.

We must also remember that this includes all of the patients who were operated on immediately, many of whom would in all probability have died of the shock alone. Thus we find out of 27 affected in the cervical region, operated on immediately, 21 died, while out of 10 operated on at a later period only 2 died; in the dorsal region, out of 49 operated on immediately 23 died, while of those who were operated on later, only 5 died from a total of 63. Even in the lumbar region the same disproportion exists; thus, from 6 immediate operations, 4 died, while from 22 done at a later period, only 4 were fatal.

The inserted table shows the results better than any description I can write.

Cervical Region.	Immediate Operation.	Later Operation.
Deaths	21	2
Recovery	0	2
Improved	2	1
Not improved	0	4
Subsequent death	4	3
	27	12

Dorsal Region.	Immediate Operation.	Later Operation.
Deaths	23	5
Recovery	4	10
Improved	9	18
Not improved	6	16
Subsequent death	7	16
	49	65

Lumbar Region.	Immediate Operation.	Later Operation
Deaths	4	4
Recovery	1	6
Improvement	1	6
No improvement	0	4
Subsequent death	0	2
	6	22

Sacral Region.	Immediate Operation.	Later Operation.
Death	0	0
Recovery	0	1
Improved	0	3
Not improved	0	0
Subsequent death	0	0
	0	4

These statistics are decidedly against immediate operation and we must urgently advise never operating until it is evident that the patient will not succumb to the direct effects of the injury. As soon, however, as he has recovered from the shock and his exact physical condition is known the operation should be performed.

This emphasizes the fact, which is already recognized, that the cervical is the most dangerous region for operation, and at the same time the least satisfactory in its ultimate result. The results in the dorsal region have improved since the earlier statistics, due probably to the improvement in technique, the greater rapidity with which the operation is done, and the fact that operations are done earlier than was formerly the case. The lumbar region shows a surprisingly small number of surgical interventions when it is taken into account that the safety of the operation in this region and the decided improvement following it was emphasized in all the earlier papers on this subject. I can not but feel that some of the incomplete recoveries recorded have been due to incomplete relief of the compression. Unless the operator has had considerable experience in spinal surgery, it is a very easy matter to overlook a compressing point. It is essential, in order to make the operation perfectly successful: 1, to remove enough laminæ to absolutely settle the fact that there is no remaining compression of the cord; 2, to chisel off any projecting bone, whether it be a portion of a vertebral body or bodies, or one or more articular processes; 3, to remove all blood clots, even though laminæ of unaffected vertebræ have to be removed to get beyond the hemorrhagic area; 4, to look out for thickening and compression resulting from inflammatory processes or injuries of the structures within the vertebral canal. It is sometimes difficult to be absolutely certain whether all compression has been done away with, but one usually recognizes the fact that the cord is smaller in the exposed area than it should be, and that its pulsation is not complete, not as full as in a normal cord. Care should be taken, therefore, that the cord dilates to its full extent, and that the pulsation returns. This can happen only where the cord has not been completely destroyed. And if the operator can not be sure of this fact without cutting the dura, he had better make an incision and definitely determine whether the integrity of the cord has been preserved. He will also sometimes recognize the fact that the dura is discolored, looks as though there has been an intradural hemorrhage, and while this accident, if it has occurred, has probably produced more or less disintegration of the cord itself, the dura should be opened and this blood clot extirpated, for one may look for a certain amount of regeneration in the cord provided it is relieved from the compression at a sufficiently early period and has not been completely destroyed.

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* Presented to the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

After commenting on the former statistics of the operation, Keen said: "With such statistics before us it is impossible to draw any other conclusion than that operation is advisable in case extension directly after the accident fails to reduce the deformity. Of course, the limitations arising from the time that has elapsed since the accident, the region involved, and the severity of the lesion must be given due weight in reaching a conclusion in any given case. In an instance therefore of such gravity followed by such an immense percentage of deaths, if no operation be done it would seem to be advisable with our present experience, in all suitable cases to give the patients the real though often desperate chance that operation offers and that the operation should be done at a much earlier period than has hitherto been the rule." If this was the conclusion reached after a careful weighing of all the data presented up to that time, how much more emphatically may we advise operation with the present statistics before us.

The question may be asked: What are the dangers of the operation? And this applies equally to all conditions in which laminectomy is indicated. We have already spoken of the shock, and this necessarily includes the anesthetic, but, with our improved methods of handling shock at the present time, this need be much less than it was formerly. In the cervical region, one must remember the dangers of phrenic paralysis when the third and fourth, or even the fifth and sixth cervical vertebræ are interfered with, and here it is advisable that the operator should manipulate the cord as little as possible. Hemorrhage has been spoken of as a serious danger, but we have not found it so. If one is unaccustomed to operate in this region, he will lose much time in attempting to control bleeding by the application of hemostatic forceps. This is hopeless. If, however, he is prepared to make a rapid clearing of the laminæ and then pack the wound for a few minutes with firm compresses, the extravertebral hemorrhage will entirely cease. The hemorrhage arising from the vessels about the dura may be somewhat troublesome, but it usually stops in a very short time, and in our experience has never proved dangerous. In the cervical region, if the injury includes the costo-transverse foramen, hemorrhage from the vetebral artery, which has proven fatal several times, must be guarded against. Formerly the loss of cerebrospinal fluid was feared, but a number of cases have since been reported where this oozing went on for weeks and large quantities were lost, yet the patient survived and eventually recovered. In one of my cases a fistula persisted for ten or twelve weeks with no appreciable inconvenience to the patient. If the dura is opened, and closed again with fine catgut, or fine silk, there will be but little escape of cerebrospinal fluid. The weakening of the spine is perhaps an important element, particularly in those cases where a portion of a displaced body or a projecting articular process or processes have to be removed. Here supporting apparatus should be employed and the method of wiring the vertebra, as suggested by Hadra, may be considered. Finally, operation on that part of the spine below the first lumbar vertebra, in which we find only the cauda equina, comes under rather a different ruling from those where the medulla itself may be affected. Here a lesion is a nerve compression or nerve section and the results of operation would not differ from operative measures undertaken upon nerve tissue in any other part of the body.

I have operated on the following cases of fracture or fracture-dislocation of the spine since the publication of my last paper. These cases have not been published before and are therefore given somewhat in detail.

Case 1.—W. W., a male, was admitted to the New York Post-Graduate Hospital, Aug. 9, 1897. Four years before, he was shot from a distance of four feet. The bullet was 32-caliber, and entered the mid-dorsal region a little to the left of the spine. Immediate paraplegia and anesthesia resulted. He was unconscious most of the time for the next four days. Vesico-rectal paralyses were also present, but improved after a few weeks so that he was able to control his bladder. At the end of a year he was able to move his right leg and had regained some sensibility in both. Improvement has been going on gradually for the past three years. His general health is very good.

Examination revealed normal organs, but there were bedsores on the buttock and ankles. Ankle-clonus was exaggerated, also the patellar reflexes, and the gluteal muscles were thrown into clonic spasm on pressure over the sciatic nerves. The feet were in constant plantar flexion.

Operation was performed on September 1, under ether anesthesia, the incision being from the sixth to the tenth dorsal spines, and down to the laminæ. The arches of the sixth, seventh, eighth, ninth and tenth dorsal vertebræ were removed. There were evidences of fracture of the seventh, eighth and ninth laminæ. The fracture crossed from one side to the other, running toward the right and from above downward. The superior right articular process of the tenth vertebra was also fractured and had not united. Pressure on the cord was present over the whole area, and there were also evidences of old pachymeningitis. Pulsation of the cord was much reduced before the removal of the compression, but improved afterward. Before the operation the left leg had to be strapped to the thigh to prevent the violent muscular spasms, which resulted from the least jar, from throwing him out of bed. He could walk with the aid of crutches, as long as this leg was strapped up, but if it was allowed to dangle it would throw him over. When he left the hospital the reflexes were normal, he had recovered almost normal power in his adductor muscles on both sides, and in his quadriceps extensors, while the areas of anesthesia were markedly diminished. He has been heard from within a few months, and has recovered a great deal of the power in both limbs, although he is not yet able to do without crutches and has no trouble either with bladder or rectum.

Case 2.—A. L., a male, on July 19, 1898, while diving in shallow water, struck upon his head, and was immediately paralyzed. He was admitted to the New York Post-Graduate Hospital on July 27, and at this time had complete paraplegia and anesthesia below the third rib. He had had syphilis two years before. Priapism was present. He could extend his wrists slightly and flex the elbows. Vesico-rectal paralysis, cystitis and bed-sores were present. The areas supplied by the ulna nerve were still sensitive.

On July 28, I took an *x*-ray, which confirmed the diagnosis of fracture-dislocation of the fifth cervical vertebra. Operation, August 12, was under ether anesthesia, with removal of the laminæ of fourth, fifth and sixth of the cervical vertebræ. The fifth arch was compressing the cord, which did not appear to be crushed. There was no hematoma, and the dura was not opened. Pulsation returned as soon as compression was removed. In a few days sensation began to return, and he could use his arms considerably, while the priapism disappeared and he seemed to be gaining rapidly. His bladder symptoms, however, did not improve, and he began to give signs of uremia. Then, about September 1, he was suddenly completely paralyzed again and died in uremic coma, September 25. Unfortunately the house staff allowed his body to be removed without asking for an autopsy, so that it was impossible to determine the cause of the return of the paralysis.

Case 3.—B., a female, was aged 14, with a family history of tuberculosis on the mother's side. Both parents, three brothers and four sisters were all healthy.

Previous History.—She had measles, whooping-cough and pneumonia in infancy, but was otherwise in excellent health and robust until the present trouble, with the exception of a few months prior to its onset, when she had nervous attacks in school; she was then about the age of puberty. Her first menstruation was very scanty and came four days before the present trouble. She menstruated four weeks later and has not since. In November, 1897, she fell down about sixteen steps, landing so that her head was thrown forward on her chest and her feet backward. She felt no injury and no pain at the time, and forgot about it until reminded of it six weeks later.

Present Trouble.—About Jan. 15, 1898, she was taken with la grippe, recovered partly, but felt very severe pains in the muscles of the legs and back. All day, January 22, she had very severe pains between the shoulders, and on the 23d, when dressing, she suddenly found that her arms dropped while combing her hair, and she could not grasp a comb or pins. Sudden weakness came over her and she became hysterical. She then walked some distance and got into bed. Her neck became rigid and her head was thrown backward. She could not use her legs and left arm, but could the right from the elbow down, though not the fingers; the face was flushed and body cold, but temperature 104. There was total loss of sensation below the seventh cervical vertebra, retention of urine and no control of bowels—all these symptoms were present the first day. On January 23 the bladder became distended to the umbilicus and urine dribbled. The condition was unrecognized by the physician. When catheterized the urine was ammoniacal—this was two or three days later. There was no improvement at the end of the week, during which time all these conditions persisted and also great pain in the neck. An osteopath was then called, and discovered a lump about the seventh cervical, which he is said to have massaged away. With massage the stiffness and pain disappeared, and the bowels, which resisted cathartics, were made to move with fair regularity. This occurred within thirty-six hours, but there was no further benefit derived from this treatment, which lasted six weeks; by this time the patient had lost considerable flesh. The temperature persisted at about 103 F., nightly. On the fifth day of the disease bed-sores developed on the heel and elbow; they healed in five months. Others have since developed and healed.

The patient was then removed from Utah, where she was taken sick, to the Presbyterian Hospital, in Chicago, where she remained seven weeks, growing thinner every day until almost a skeleton. Her mother says that there the case was pronounced incurable. From Chicago she went with a trained nurse to Bayonne, N. J., her home, in May. Her general health improved greatly. A nerve specialist made there a diagnosis of myelitis. Her temperature became normal soon after reaching home and she regained some of her lost flesh. With careful catheterization all cystitis disappeared, but there was no improvement in muscular power until the present time. Electricity has been used faithfully. There was a partial return of sensation, which is variable in degree and location.

This improvement persisted up to the last three weeks. Then her appetite failed. Temperature became 103 to 104, nightly, and she seemed weaker; a lump appears at intervals on her back at the seventh cervical, and is about the size and thickness of a watch.

The mental condition has been good, and she has never been unconscious, but sometimes petulant. Cathartics and catheters are still necessary.

Physical Examination: The tongue is coated with dry, brown fur. The breath is sour, the nose obstructed, the neck asymmetrical—enlargement on the right side, soft and over the sterno-cleido-mastoid muscle. As to the thorax, the veins in the median line are prominent. The lungs show diminution of resonance on the left side, anteriorly, and rough, harsh breathing sounds over this area on deep inspiration—the same posteriorly. The heart is negative. There is an anemic bruit in the veins of the neck. The liver is apparently normal, also the spleen. Bed-sores are present on the hips and in the lumbar region and heel. These show—first two regions—reparative changes.

Extremities: The right arm muscles are weak and flabby, with much wasting of the flexors of the forearm; the dorsal and palmar interossei and ulnar groups wasted away. The arm can be raised, also the forearm flexed on the arm, but no flexion of the hand is possible. Extension of the hand is controlled. The tendons are not contracted. There is anesthesia of the dorsal surface of the fourth finger only. In the left arm less wasting of the muscles is evident, but the shoulder group shows motor power only. There is no anesthesia. The right leg has partial anesthesia below the knee, the patellar reflex absent, and no ankle-clonus. The left shows motor paralysis and anesthesia of the whole extremity.

There is pain on palpation over the spinous process of the sixth cervical vertebra; crepitation; tendinous or blood clot.

The abdomen shows anesthesia over the surface extending to a line between the nipple line and the clavicles.

The *x*-ray revealed displacement of the fifth cervical vertebra.

Operation: On September 15, Dr. Lloyd made an incision over the spines of the fourth, fifth and sixth cervicals, hemorrhage being controlled by gauze packing. The fifth vertebra was found dislocated and pressure on the cord by its body very marked. Pulsation in the cord was absent. The dislocated vertebra was reduced by traction on the head and body and manipulation. The head, neck and chest were put in plaster after closing the wound. The patient stood the operation very well, but with no improvement.

Case 4.—A male of previous good health, fell through an elevator shaft, receiving a fracture of the spine, with complete paraplegia, vesicorectal paralysis, and obliteration of the reflexes. There was also anesthesia below the iliac crests, bedsore over the lower sacral region, and gangrene of the toes of the left foot. This was his condition at the end of six weeks, when he was brought to me.

He was 28 years old, and had measles and typhoid fever when a boy. He had pneumonia twelve years before the accident, and seven years before had two sores on the penis. The latter were treated locally, and the patient's physician told him they were chancres, but gave no constitutional treatment.

When he fell down the elevator shaft, a distance of sixty feet, he struck on the lower spinal region, or buttocks. He was not rendered unconscious by the fall, but was unable to rise, as his lower extremities were completely paralyzed. The rectum and bladder were also involved. There was kyphosis in the lower dorsal region, the eleventh and twelfth vertebræ being most prominent. When I saw him his condition was fairly good, and he had partial control over the bladder, but his bowels still moved involuntarily. The toes on the left foot were gangrenous, the heart and lungs negative, and anesthesia extended over the areas supplied by nerves arising from and below the fifth lumbar segment (Starr). He voided urine voluntarily on the second day, and was out of bed the eighteenth.

Three weeks after operation there had been improvement in his general condition. The gangrene of the toes and the bed-sores were almost well. Control over the bladder was almost normal and there was also partial control over the rectum, also considerably more motion than before operation, the improvement chiefly in the adductors and abductors of thighs. There was also some motion in the flexors of the knee and in the quadriceps extensors. The right leg was better than the left. Anesthesia was also less than before, and most of the areas of lessened sensation before operation were now hyperesthetic, and spots of sensation were present in the anesthetic areas. The reflexes also were returning. Incision was from the eleventh dorsal to the second lumbar, inclusive, with removal of these arches. The cord was plainly seen to be pushed anteriorly and to the left side. The portions of bone encroaching on it were removed when the cord, which before had not been larger than a lead pencil and non-pulsating, expanded to its full size and pulsation returned. The dura was opened and no general destruction of the cord or blood clot was present. Improvement followed.

Note.—Feb. 28, 1901. This patient has been heard from again within the past few days, and he reports that he still continues to improve.

FRACTURES.

Case 104.—Operator, Warren, 1867. Dorsal region; duration, 4 days. Projection over 6th D. crepitus; senses comatose; paraplegia, priapism, anesthesia, tympanites, paralysis of bladder. Incision 8 inches long; 5th D. spine fractured and removed with forceps. Fracture 6th D. lamina and trans. process; dura punctured. Intradural clot found on cord and left. Improvement unmistakable. Plantar reflex observed on second day; third day sensation along thighs and reflexes good below seat of fracture. Death on eighth day. Cause of death and post-mortem observations: Fracture of pelvis and left laminæ of 5th to 7th D.; comminuted fracture of 5th, 6th and 7th bodies, twisting of spine. Death due to infection from cystitis. Reference: An. of Surg., vol. xvii, p. 439.

Case 105.—Operator, Fitzgerald, 1882. Upper dorsal region; duration, 2 hours. Paraplegia and anesthesia below lesion; vesical and rectal paralysis. Removal of fractured laminæ and reduction of dislocation. No improvement. Death some days later on moving the head. Reference: Syme; Aust. Med. Jour., 1893, p. 121.

Case 106.—Operator, Fitzgerald, 1882. After a formal laminectomy—a new fracture. Canal reopened, projecting part of body removed. No functional result. Reference: Idem.

Case 107.—Operator, Balow, [illegible] d absence of reflex. Death on eighth day. [illegible] Med. Jour., 1892, p. 1, *table viii.*

Case 108.—Operator, Balow. Duration, 6 weeks. Fracture with paraplegia. Return plantar reflex, motion of big toe. Death after 3 months; myelitis. Reference: Idem.

Case 109.—Operator, Balow. Fracture with paraplegia. Improvement. Reference: Idem.

Case 110.—Operator, Schede, 1886-90. Dorsal region; duration, 13 months. Fracture of 5th and 6th D.; anesthesia below umbilicus; paraplegia complete; vesical paralysis, exaggeration of reflexes gradually becoming worse; bedsores, anesthesia. Resection 5th and 6th D. arches; fragments removed; meninges normal. No improvement. Death from exhaustion 1 year later; gangrene. *Post-mortem*: Fracture of 7th and 8th D. bodies; displacement into canal. Reference: Rieder, Yahr. d. Hamburger Statts Krank., 1892, vol. ii, pp. 236-301.

Case 111.—Operator, Schede, 1886-90. Dorsal region; duration, 18 months. Fracture of clavicle and 6th *D. Anesthesia almost* up to mammæ; paraplegia, paralysis of bladder and rectum; reflexes exaggerated; gradual increase in symptoms. Four dorsal arches removed; body of 6th displaced into canal, crushing cord. No improvement. Reference: *Idem.*

Case 112.—Operator, Schede, 1886-90. Dorsal region; duration, 16 weeks. Paraplegia and anesthesia; absence of patellar reflex; priapism, *ejaculation, vesical paresis. Removal of arch of 6th D.* which pressed on cord. Gradual improvement. Return of patellar reflex in 4 months. Could walk after 5 months. Almost *complete* recovery. Reference: Idem.

Case 113.—Operators, Wooster and Montgomery, 1889. Cervicodorsal region. Paraplegia of lower limbs; partial paralysis of upper limbs. Removal of 6 bony fragments; cord normal. Paralysis increased; dyspnea. Death on *36th day. Post-mortem: Com*minuted fracture of 5th and 6th C., 1st D.; cord crushed; pus at this point. Reference: Occidental Med. Times, 1889, p. 497.

Case 114.—Operator, Woodbury. Dorsal region; duration, some weeks. Complete motor and sensory paraplegia. A slight sensibility over right great toe; paralysis of bladder and rectum. Ablation of 3rd, 4th and 5th dorsal arches. No improvement for some time, when extension and counter extension were applied; then rapid improvement. Seventeen months later practically well. Reference: N. Y. Med. Jour., *1890, vol. i, p. 1007.*

Case 115.—Operator, Ewing Mears. Lumbar region. Complete motor and sensory paraplegia. Removal of 1st lumbar arch. No pulsation in cord. Impossible to reduce fracture of body. Improvement. Reference: Phila. Med. News, *1890, vol. i. p. 210.*

Case 116.—Operator, Dalton, 1889. Dorso-lumbar region; duration, some hours. Complete motor and sensory paraplegia below great trochanter. Arch of 12th D., which *compressed cord.* removed. A splinter pierced cord. Return of sensibility. Death on 3rd day; hyperpyrexia. Reference: St. Louis Courier *of* Med., vol. i, p. 128.

Case 117.—Operator, Armstrong. Dorsal region. Complete paraplegia; bedsores, pyrexia. Resection of 12th D. to 1st L. arches. meninges normal: cord atrophied: marked displacement of vertebral body. No improvement. Death on 8th day. Post-mortem: Fracture of 3rd and 12th dorsal bodies. Purulent infection, probably from bedsores. Reference: Reports U. S. M.-H., Washington, D. C., 1889,p. 2712.

Case 118.—Operator, Bird. Dorsal region; duration, 1 year. Motor and sensory paraplegia; diarrhea; atrophy of lower limbs; bedsores, pains in back and thighs. Resection last 3 dorsal arches. Meninges bent at right angles and appeared empty. Area of distribution of crural br. of genito-crural nerve regained sensibility on right. Very slight improvement. Reference: Aust. Med. Jour., 1893, p. 115.

Case 119.—Operator, Bird. Dorsal region; duration, 48 hours. Great pain; motion diminished, also sensibility, patellar and plantar reflexes. Depression over 12th dorsal. Removal of superior left articular process and arch of 12th D., which was fractured; removal of a dural blood-clot; hemorrhage. Following day all symptoms improved. Almost complete recovery. Reference: Idem.

Case 120.—Operator, Lampiasi, 1890. Dorsal region. Complete motor and sensory paraplegia; vesical paralysis. Removal of 9th and 10th dorsal spines and arch of 10th dorsal. Third day vesical paralysis disappeared. Complete cure. Reference: Com. Fatta Sul la vi. a Ad. dela Soc., Ital. di Chir., Bologna, ii 116, 1889-90.

Case 121.—Operator, England, 1890. Cervical region. Paraplegia up to 3rd rib; paresis of both arms; priapism. Trephining. Death 6th day, asphyxia. Post-mortem: Fracture 6th cervical: destruction of cord. Reference: N. W. Lancet and Pharm., Winnipeg, 1890, p. 287.

Case 122.—Operator, Terrier, 1890. Lumbar region; duration, long time. Considerable bony displacement, complete paraplegia, intense pain in lower limbs. Crushing so complete that removal of a lamina gave access to subjacent body. Cord destroyed. Persistence of paraplegia and pain. Reference: Prog. Med., 1891, p. 377; Bull. a Mem., 1891, p. 682.

Case 123.—Operator, Knox, 1890. Dorsal region; duration, 36 hours. Complete motor and sensory paraplegia; violent cramps in legs. Removal of arch and articular processes of 10th D.; replacement of 11th dorsal, which was dislocated; pulsation gradually returned. Complete sensation following day; some motion of toes; no other improvement for 2 months. In 10 months could walk without assistance. Decided improvement. Reference: Glas. Med. Jour., 1891, i, 241.

Case 124.—Operator, Weiss, 1890. Dorsal region; duration, 33 days. Complete motor paralysis of left leg; incomplete of right; sensation and reflexes normal; vesico-rectal paralysis; later, paraplegia complete. Removal of 11th D. spine and arch, also 10th D. arch. Premeningeal connective tissue red, injected; marked decrease in size of canal. Next day some motion; 3rd day, involuntary but conscious micturition; disappearance of incontinence. Cured. Reference: Revue Med. de l'Est, 1891, p. 449.

Case 125.—Operator, Bircher. Dorsolumbar region. Fractured vertebra had contused cord; arch removed, dura opened; sutured with catgut. No improvement. Reference: Bull. a Mem., 1891. p. *680.*

Case 126.—Operator, Roux, 1890. *Dorsolumbar region*; duration, 5½ months. Complete motor and sensory paraplegia: vesicorectal paralysis; atrophy and edema of lower extremities. No response to Faradic current; contraction with galvanism. Reflexes absent. Anesthesia below Poupart's ligament; sacral bedsore. Resection of 12th D. and 1st L. arches. Canal narrowed by body of 1st L.; cord bruised. Incision of dura. Slight improvement. Death from infection from bedsores, 2 months later. Reference: Chipault, op. cit., 1893, p. 91.

Case 127.—Operator, Montprofit. Dorsolumbar region; duration 9 months. Complete motor and sensory paraplegia; vesicorecta paralysis. Resection *of 1st and 2nd L. arches.* Canal obliterated cord only a fibrous tract. No improvement. Reference: Idem p. 90.

Case 128.—Operator, Anger, 1890. Lumbar region; duration, 1 month. Complete motor and sensory paralysis; vesicorectal paralysis. Resection of 12th D. and 1st L. arches. Gradual recovery of some sensation and muscular power: improvement of bedsores Death from nephritis 1 month later. Cause of death and post-mortem observations: Dislocation of 1st L. body backward. Cord nearly severed and pushed backward from left to right. Ascending and descending degeneration. Reference: Idem.

Case 129.—Operator, Poirrier, 1890. Dorsal region; duration, 4 days. Complete paraplegia, anesthesia and thermal anesthesia. Resection of 11th and 12th D. and 1st L. arches and artic processes of inferior right of 11th, superior left of 12th L. Careful reduction of post. dislocation of 12th body by extension and counter-extension. After several days, improvement in sensibility and rectal paresis. No motor improvement. Result: Some improvement. Reference: Idem, p. 101.

Case 130.—Operator, Chipault, 1890. Lumbar region; duration, 36 days. Complete motor and sensory paraplegia; bedsores: vesicorectal paralysis. Removal of 11th and 12th D., 1st and 2nd L. arches. No pulsation. Removal of projecting border of displaced body of 1st L. Destruction of cord. Very slight improvement in anesthesia. Reference: Idem, p. 93.

Case 131.—Operator, Chipault, 1890. Dorsolumbar region: duration, 3 days. Complete paraplegia, anesthesia, vesicorectal paralysis. Of reflexes, cremasteric present; patellar decreased; plantar suppressed. Removal of 11th and 12th D. and 1st and 2nd L. arches. No extra dural hemorrhage. Large intradural clot between node of cauda equina. No improvement. Death 2 months later. Reference: Idem, p. 105.

Case 132.—Operators, Church and Eisendrath, 1890. Cervical region; duration, 20 hours. Complete paralysis of trunk, abdomen and extremities; anesthesia up to 5th D. spine; posteriorly and anteriorly to superior border of 3rd rib. Absence of reflexes. Vesicorectal paralysis; depression of 5th and 6th cervical processes. Right lamina of 5th and 6th removed. Death from asphyxia in 8 hours. Reference: American Jour. of Med. Sci., 1892, p. 395.

Case 133.—Operators, Church and Eisendrath, 1890. Dorsolumbar region; duration, 62 hours. Paralysis of lower extremities and abdominal and intercostal muscles: anesthesia to superior border of 3rd rib; all reflexes gone except left cremasteric; priapism, rectal and vesical paresis. Left lamina and spine of last dorsal fractured and 1st L. dislocated forward: dislocation reduced. Death from asphyxia and shock. Post-mortem observations: Fracture of 12th D.: dislocation of 1st D. and 2nd L. Reference: Idem.

Case 134.—Operators, Church and Eisendrath. Sacral region: duration, 2 years and 3 months. Motor and sensory paraplegia. anesthesia: rectal and vesical paralysis. Two years later had improved, but had complete anesthesia from four last sacral nerves. No reflexes except cremasteric. Incision over sacrum. Canal obliterated up to inferior border of 1st sacral segment. Fragments removed. Sacral root below could not be found. Month later anesthesia only in feet, gluteal regions, sacrum and posterior surface of penis; three mo. later lateral motion of feet; some erections. Result: Improved. Reference: Idem.

Case 135.—Operator, Korteweg, 1889. Dorsolumbar region; duration, 13½ months. Partial paraplegia with anesthesia up to knee; rectal and vesical paralysis. Resection of 12th D. and 1st L. Meninges hard and resistent. Could walk with apparatus. Result: Some [illegible] [illegible] [illegible]ault.

Case [illegible] [illegible]91. *Dorsal region*; duration, 15 week[illegible] [illegible] up to 6th intercostal space; all reflexes lost. Resection of 2nd, 3rd and 4th *dorsal arches*. *No* improvement. Death 9 months after from pyemia from bedsores. Reference: Idem.

Case 137.—Operator, Tilanus, 1890. Dorsal region; duration, 7 months. Total paraplegia and anesthesia below umbilicus. Resection of 9th, 10th and 11th D. arches; dura unopened. No improvement. Reference: Idem.

Case 138.—Operator, Tilanus, 1893. Dorsal region; duration, 3 months. Complete paraplegia and anesthesia below umbilicus, just above zone of hyperesthesia. Resection of 9th and 10th D. arches. No improvement. Reference: Idem.

Case 139.—Operator, Lucas Championniere, 1891. Dorsal region; duration, 14 months. Removal of 4th and 5th D. arches and a hypertrophic callus, which compressed cord on side and in front. Three months later could walk without cane. For six months gradually became worse. Reference: Idem.

Case 140.—Operator, Ridenour, 1891. Dorsal region; duration, 1 hour. Paraplegia and pain on motion; depression at 7th D. Removal of 7th, 8th and 9th D. arches; reduction of displaced 7th body. Rapid return of sensibility and control of sphincters. Recovery. Reference: Columbus Med. Jour., vol. x, p. 151.

Case 141.—Operator, Boyle, 1891. D. region; duration 2 months. Complete motor and sensory paraplegia; priapism, vesical paresis. Removal of 9th, 10th, 11th and 12th D. and 1st L. arches. Marked improvement. Reference: St. Louis Med. and Sur. Jour., vol. ii, p. 308.

Case 142.—Operator, Audry, 1891. Cervical region; duration, 24 hours. Paraplegia of all 4 extremities; anesthesia below internal aspect of arms; right pupil contracted; *ptosis of right* eye. Resection of 5th and 6th cervical arches. Cord *compressed* backward by body. Death in 12 hours from respiratory failure. Postmortem observations: Fracture of 5th *cervical* arch and body; cord destroyed; extradural hemorrhage.

Case 143.—Operator, Boiffin, 1891. Lumbar region; duration, 3 months. Complete paraplegia on left; incomplete paraplegia on right side. Removal of 2d and 3d L. arches. Spine compressed by inferior fragment of 2nd lumbar. Death from nephritis 2 months later; improvement at first. Reference: Memoirs and Discussions of French Cong. of Surg., p. 516.

Case 144.—Operator, McBurney, 1891 (Starr). Lumbar region; duration, 5 months. Complete motor and sensory paraplegia; vesical and rectal paresis. Removal of 1st, 2nd and 3rd L. arches; dura incised. Vesicorectal improvement at end *of 3 months*; 6 months later no motor improvement. Result: *Slight improvement* Reference: Am. Jour. Med. Sci., vol. ii, p. 26; Case 12.

Case 145.—*Operator*, McCann, 1892. Dorsal region. Paraplegia. Removal of arches which were driven down on cord; fragments removed. Death subsequently. Reference: Trans. of Am. Surg. Asso., vol. ix, p. 216.

Case 146.—Operator, McCann, Jr., 1891. Dorsolumbar region. duration, 3 months. Anesthesia below knees; paraplegia. Removal of arches of 12th dorsal and 1st and 2nd lumbar. Recovery. Reference: Idem.

Case 147.—Operator, Moullin, 1891. Lumbar region; duration, 9 weeks. *Paraplegia*; anesthesia most marked on the right; some vesicorectal paralysis. Improvement, *then stationary*. Removal of 2nd and 3rd lumbar arches and inferior right articular *process* of 2nd lumbar, which compressed cord. Improvement; recovery. Reference: London Lancet, 1892, vol. i, *p*. 359.

Case 148.—Operator, Wyeth. *Dorsal* region; duration, 4 months. Complete paralysis from level of umbilicus down, of bladder and rectum. Removed laminæ of 6th, *7th* and 8th D. vertebræ and found cord almost *completely* severed. No improvement. Reference: N. Y. Med. Jour., 1892, vol. ii, p. 273; also Annals of Surgery, vol. xx, p. 273

Case 149.—Operator, Wyeth, 1892. Dorsal region. Removal of 7th and 8th dorsal arches. No improvement. Reference: N. Y. Med. Jour., 1892, vol. ii, p. 273.

Case 150.—Operator, Urban. Dorsolumbar region; duration 6½ month. Complete motor [illegible] [illegible] [illegible] anesthesia in feet; incomplete anesthesia in [illegible]; [illegible] [illegible]; bedsores; patellar reflex exaggerated; superficial reflex absent. Resection of 12th dorsal, 1st, 2nd, 3rd and 4th L.; dura adherent; incised on right side. Traces of cicatricial tissue; body of 1st L. displaced; canal narrowed. Complete recovery. Reference: Gesell. Chir., 21st Cong., 1892, p. 214.

Case 151.—Operator, Urban. Lumbar region; *duration* 9½ mo. Complete motor and sensory paraplegia; rectovesical paresis. Temporary resection of 11th and 12th D., 1st, 2nd, 3rd and 4th L; 12th D. body displaced; no pulsation. Pulsation returned. Partial return of sensibility in 24 hours. Reference: Idem.

Case 152—Operator, Israel, 1892. Motor and sensory paraplegia; rectovesical paresis. Two months later, no improvement. Reference: Idem, p. 111.

Case 153.—Operators, Verdelet et Venot. Lumbar region; duration 1¼ months. Right monoplegia; *no anesthesia*; vesicorectal paralysis. Removal of splinter on right of 1st lumbar. No improvement; increase in cystitis. Death 12th day. Reference: Societe d'Anat. et Physiol de Bordeaux, June 13, 1892; Jour. de Med., p. 311, 1892.

Case 154.—Operator, Park, 1892. Dorsal region; duration, 2 days. Motor and sensory paraplegia. Resection of 10th, 11th and 12th arches. Canal filled with clot and debris. Improvement of anesthesia; none of paraplegia. Reference: Med. News, 1892, vol. i, p. 646.

Case 155.—Operator, Bruns [illegible] [illegible]egion. Paraplegia; anesthesia up to 6th rib; [illegible] [illegible] priapism, contraction of pupils. Removal o[illegible] [illegible] [illegible]ervical and superior dorsal. Improvement in flexors and possibly in extensory power of arms. Death. Post-mortem observations: Total degeneration of cord. Lower cervical, upper dorsal. Secondary degeneration *of* points of myelitis. Reference: Mercerdi Med., 1893, p. 9.

Case 156.—Operator, Koerb. Dorsal region. Complete paraplegia; all reflexes gone; paralysis of sphincters. No improvement. Death 10th day. Post-mortem observations: Fracture 10th dorsal; cord crushed. Reference: Idem.

Case 157.—Operator, Le Dentu. Dorsolumbar region; duration, 28 days. Complete motor and sensory paraplegia; vesicorectal paresis; fracture of femur. Removal of 11th and 12th *dorsal and* 1st lumbar arches. Death from pyelonephritis. *Post-mortem* observations: Cord crushed. Reference: *Chipault, loc. cit.*

Case 158.—Operator, Villar, 1892. Dorsal region; duration, 3 days. Depression in dorsolumbar region; motor and sensory paraplegia; patellar reflexes present; plantar and cremasteric gone; rectovesical paralysis. Incision from 10th *dorsal to 1st* lumbar; compression removed. Improvement. Reference: Idem.

Case 159.—Operator, Van Kleef, 1892. *Dorsolumbar* region; duration, 6 weeks. Total motor sensory paraplegia and rectovesical paresis. *Removal* of 12th dorsal and 1st lumbar arches; *cord compressed* by fragments. Marked improvement in two days. *Reference*: Chipault.

Case 160.—*Operator, Zavaleta*, 1892. Lumbar region; duration, 7 days. *Motor* and *sensory* paraplegia; vesicorectal paralysis. Fragments removed; extensive ascending myelitis. Death from respiratory paralysis on 43rd day.

Case 161.—Operator, Wyeth, 1890-91. Dorsolumbar region; duration, 8 months. No motion below hips; no sensation from junction of middle with upper third of thigh; urine overflows. Laminæ of 11th and 12th D. and 1st L.; *cord small and soft*, and no direct *compression*. No improvement. Death 3 years later; cause unknown. Reference: Annals of Surgery, vol. xx, p. 154.

Case 162.—Operator, Wyman, 1892. Lumbar region; duration 8 weeks. Complete motor and sensory paralysis below last dorsal nerve; vesical and rectal paralysis; cystitis. Removal of 2nd L. arch; cord atrophied. Death 15 hours later. Reference: Annals of Surgery, vol. xix, p. 661.

Case 163.—Operator, Riggs, 1893. Dorsolumbar *region; duration*, 4 days. Complete paralysis; bladder and rectal paralysis. *Removal of last dorsal and 1st L. arches.* Recovery from operation. Slight improvement. Reference: Idem.

Case 164.—Operator, Mayer, 1894. *Lumbar region*; duration, 17 months. Paralysis, motor and sensory; bladder symptoms; cystitis. First and 2nd L. arches *removed*; dura adherent to cord. Recovery from operation. *Marked improvement.* Reference: Annals of Surgery, vol. xxvi, *p*. 207.

Case 165.—Operator, Park, 1892. Male, 37; had had Pott's disease some time before; struck by train; *paraplegia*; anesthesia limited to skin. No lesion or fracture found. *Death* on eighth day. Post-mortem observations: Fracture found at region of Pott's disease. Reference: Med. News, 1892, i, p. 546.

Case 166.—Operators, Weller and Van Hook, *1891*; reported by Starr. Third dorsal region; duration 16 hours. Wound from revolver bullet; complete paralysis of lower limbs. Removal of 3rd D. arch; cord found reduced to a pulp. Death 21 days later. Reference: Am. Jour. of Med. Sci., vol. ciii, p. 395.

Case 167.—Operator, Conley, 1891. Fifth dorsal region. Re volver wound at 5th *dorsal*; complete paralysis of lower limbs. Retention of urine *and* feces. *Fifth dorsal* arch removed; cord nearly sound and bullet found in back of vertebræ; iodoform drain. No union because of escape of cerebrospinal fluid. Death 31 days later. Reference: Idem.

Case 168.—Operator, Boufleur, 1891. Duration 24 hours. Fracture 5th and 6th C. vertebræ; anesthesia of upper and lower limbs. Exploratory laminectomy at 5th C. Death in 8 hours. Reference: Idem.

Case 169.—Operator, Halsted, 1891. Second D. and 5th L. dislocated, 12th D. fractured; duration, 62 hours. Struck by grip of cable car; paralysis of lower limbs and trunk. Laminectomy at 12th D.; reduced dislocation at 2nd D. and 5th L. Death in 15 hours. Reference: Idem.

Case 170.—Operator, Frank, 1891. Sacral region; duration, 2 years. *Partial* anesthesia of legs and *complete* of rectum and penis; two bedsores. Portion of sacrum *removed*. Some improvement. Reference: Idem, p. 405.

Case 171.—Operator, Golding-Bird. Dorsal region; duration, 72 hours. Severe pain across back, which increased with movement. Paralysis of lower limbs (partial); partial anesthesia of legs and abdomen; reflexes normal; ankle clonus; paralysis of sphincter ani. Removal of 11th and 12th D. arches and blood-clot; wound closed with silver; no drain used; extension made by traction. Sensation and motion steadily improved. Complete recovery. Reference: Br. Med. Jour., May 23, 1891.

Case 172.—Operator, Warren. Dorsal region; duration, 4 days. Paralysis of legs; cold feet and semistupor; fever. Dura opened, and blood-clot found. Death. Post-mortem observations: Fracture of spine and pelvis: torsion and compression of cord. Reference: Annals of Surg., xvii, 1893, p. 439.

Case 173.—Operator, Pauzer, 1893. Lumbar region; duration 3 years. Male, 40. Fell 30 feet; hysterical, no pain; mind gradually gave way; right limb then painful and weak. Again injured back 1 1-3 years after; 7 months after was found in a stupor; pain on pressure in lumbar region. Removal of 4th and 5th L. arches; dura adhesive; cord normal. Death 55 hours after. Reference: Trans. Indiana Med. Soc., 1893, p. 47.

Case 174.—Operator, Pauzer. Lumbar region; duration 4½ years. Male, 40; jumped 35 feet, landed on feet, became unconscious; rectal and vesical paralysis; 3 months later suffered from severe coccygodynia; 2 years later severe pain on pressure; intermittent paralysis of right limb; head symptoms; right arm cold, weak and numb; unconscious spells; pupils constantly dilated. Removal of 2nd and 3rd L. arches and 4th and 5th right laminæ; 2nd lamina and anterior processes thickened; dura thickened and adherent; pulsation present; drainage by rubber tubes. Great pain on right side for 24 hours after. Recovery. Reference: Idem.

Case 175.—Operator, Pyle, 1893. Dorsal region; duration, 11 hours. Loss of sensation and motion below hips; loss of reflexes; severe pain; rectal and vesical paralysis. Removal of fragments; cord contused. Pain immediately disappeared; sensation and motion returned one week later. Recovery. Reference: Annals of Surg., xix, p. 666.

Case 176.—Operator, Pyle, 1893. Dorsal region; duration, 6 days. Loss of sensation, *motion*; rectovesical paralysis; girdle pains. Fragments removed. Pain disappeared, but no other recovery in three months. Slight improvement. Reference: Idem.

Case 176.—Operator, Wyeth, 1890. Dorsal region; duration 7 months. Paralysis below pelvis; rectal and vesical paralysis. Some fragments removed. Gradual improvement; recovery. *Reference: Idem.*

Case 178.—Operator, Wyeth, 1892. Dorsal region; duration, 4 months. Complete paraplegia and anesthesia below umbilicus; rectal and vesical paralysis. Cord almost destroyed; 6th, 7th and 8th arches removed. No improvement. Reference: Idem.

Case 179.—Operator, Wyeth, 1890. Dorsal region; duration, 8 months. Paralysis below hips; vesical paralysis. Removal of 11th and 12th D. and 1st L. arches. No improvement. Died 2 months after; cause unknown. Reference: Idem.

Case 180.—Operator, Wyeth, 1893. Dorsal region; duration, 7 mo. Complete anesthesia and paraplegia below 6th D. spine and ensiform cartilage; rectal and vesical paralysis. Removal of 3rd and 4th D. arches and fragments of bone; cord found cut. No improvement. Reference: Annals of Surg., xx, p. 153.

Case 181.—Operator, Wyeth, 1894. Dorsal region; duration, 2 months. Paralysis below crests of ilia; vesical and rectal paralysis. Removal of 8th to 11th D. arches. No improvement; death. Reference: Idem.

Case 182.—Operator, Ellinwood, 1894. Dorsal region; duration, 3 months. Female, 19; fell 20 feet; complete paralysis below umbilicus; incontinence of urine and feces; in plaster jacket for 2 months; line of anesthesia lowered to pubes. Seventh to 11th D. arches removed; dura adherent; large mass anterior to cord which could not be reached; iodo-collodion dressing. Gradually failed; death. Reference: Occ. Med. Times, viii, p. 581, 1894.

Case *183.—Operator, Ellinwood, 1894. Dorsal region*; duration, 42 days. Male, 34; fell 20 feet; no pain and not unconscious; complete motor and sensory paralysis in lower limbs; bladder paralyzed. Sixth to 10th D. arches removed; pressure removed; cord edematous; blood-clot found. Slight movement and sensation after 2 weeks; developed cough and had dulness on left side; tubercle bacilli found. Died 2 months later. Post-mortem observations: Tuberculosis found: 8th D. was driven into 9th D., which injured cord. Reference: Idem.

Case 184.—Operator, Roberts, 1894 Region, dorsal. First operation five months; gradual loss of power and sensation below crests of ilia, rectal and vesical paralysis. Removal of 9th and *10th D. arches, bone fragments removed. Regained sensation in* testicles. Ten months later, second operation. Complete loss of power below iliac crests. Incision in lumbar region, no fragments discovered. Only improvement in legs. Two years later, third operation; 11th and 12th D. and 1st L. arches removed. Cauda equina displaced and injured, old bone fragments removed. Slight improvement in ankle joint. Reference: Medical News, 1894, lxiv, p. 265.

Case 185.—Operator. Roberts, 1892. *Dorsal region*; duration, 1 month. Paralysis of both lower limbs: rectal and vesical paralysis. Pressing fragments removed. No improvement; death. Post-mortem observations: Sepsis. *Reference: Idem.*

Case 186.—Operator, Roberts, 1893. *Dorsal region*; duration, 5 months. Paralysis of lower limbs, bladder and rectum. Cord destroyed. No improvement. Reference: Idem.

Case 187.—Operator, Roberts. 1892. Dorsal region; duration, 10 months. *Paralysis of lower limbs. Cord destroyed.* No improvement: death in 2 months. Reference: Idem.

Case 188.—Operator, Sharples. Dorsal region; duration, 24 hours. Male, 28: injured by falling weight; instantly paralyzed below 11th D.: marked blood extravasation.. Arches of 7th, 8th and 9th D. removed; cord bent; no pulsation; compressing fragments removed. Next day tingling in feet and desire to micturate; later paralysis complete, leg-jerks, anesthesia below iliac crests; no control over bladder or rectum; fistula in back. Reference: Medical News, Phila., 1894, lxiv, p. 633.

Case 189.—Operator, Dundore, 1894. Dorsal region; duration, 5¼ months. Male, 21; injured by falling weight; *loss of motion* and sensation in both lower limbs; retention of urine; cystitis; slight motion and sensation after treatment with electricity. Ninth D. trephined; cord compressed, but no lacerations; drain and plaster jacket. Subsequent course: Used electricity; recovery. Reference: Med. News, Phila., 1894, lxv, p. 578.

Case 190.—Operator, Dundore, 1894. Dorsal region; duration, 3½ months. Male, 35; struck by weight while stooping; complete loss of motion and sensation below 10th D. Cord found cut through. Death. Reference: Idem.

Case 191.—Operator, Dundore, 1894. Dorsal region; duration, 5 days. Male, 20: total paraplegia of lower limbs. *Eighth, 9th* and 10th arches; cord lacerated and blood-clots found; drain used. Died 15 days later. Reference: Idem.

Case 192.—Operator, Oliver. Dorsal region; duration, 14 months. Male, 34: fell 20 feet: instant paraplegia of lower limbs, bladder and rectum: all reflexes present. Arches of 7th, 8th and 9th D. vertebræ removed; dura adherent; no pulsation in cord; dura not stitched; perfect union. Improvement in bladder and rectal symptoms. Result: slight improvement. Reference: Med. and Surg. Reporter, 1894, lxx, p. 871.

Case 193.—Operator, Arnison, 1894. Lumbar region; duration, 2 years. Complete paraplegia below seat of injury. Arches of 1st, 2d and 3d L. removed:. cord crushed. Improvement in cystitis. Result: No improvement. Reference: Annals of Surgery, xxi, p. 522, 1895.

Case 194.—Operator, Arnison, 1894. Lumbar region; duration, 7 weeks. Paralysis of hamstring muscles: retention of urine: incontinence of feces. Arches of 1st, 2nd and 3rd L. removed; cord crushed. No improvement. Reference: Idem.

Case 195.—Operator, Arnison, 1894. Lumbar region; duration 1 month. Paralysis below hips, and of bladder and legs, atrophy *of thighs and legs*. Fragments removed. Immediate improvement, could walk in one month, cured in eight months. Reference: Annals of Surgery, xxi, p. 522.

Case 196.—Operator. Dawbarn, 1893. Lumbar region; duration 8 months. Complete paraplegia, pain and bedsores. Cord found diminished in size. Slight increase in motion, complete control of bladder and rectum, sensation normal. Reference: Annals of Surgery, xxi, p. 46, 1895.

Case 197.—Operator, Dawbarn. Lumbar region: duration 2 hours. Motor and sensory paraplegia below seat of injury. Fragments removed. Recovery in two months. Reference: Idem.

Case 198.—Operator, Winnet, 1894. Cervical region. Male, 29; dived in shallow water: mind remained clear; sensation above nipples anteriorly and shoulders posteriorly; retention of urine and incontinence of feces: pupils contracted: tenderness over 4th and 5th cervical; all muscles below neck except diaphragm were paralyzed. Fourth and 5th cervical arches removed with Hey's saw and forceps. Could move arms when last heard from. *Result: Slight improvement.* Reference: Canadian Pract., xx, p. 1, 1895.

Case 199.—Operator, McCosh. Cervical region: duration, 18 months. Male, 33: bedridden 9 months; paralyzed below clavicles. Fifth cervical arch removed. Good recovery. Reference: Idem.

Case 200.—Operator, Lindsey, 1894. Dorsal region; duration, 3 months. Male, 39; struck by cable across back; unconscious; paralyzed in lower limbs; no control over bladder and rectum; bedsores, cystitis; Sayre's jacket, electricity and strychnin given. *Could walk with cane after six weeks. Spines of 9th to 12th D.* taken off with forceps; spicula of bone removed and dislocation reduced; no drain. Had occasional convulsions and died 5 days later. Reference: N. Y. Med. Jour., 1896, lxiii, p. 382.

Case 201.—Operator, Wyeth, 1895. Dorsal region; duration, 11 days. Male, 27; struck by rock; *instantly paralyzed below seat* of injury. Incontinence of urine. Tenth to 12th dorsal arches removed; dura intact, but cord injured. Not much improvement; cystitis; regained partial control of bladder; large bedsores; severe priapism. Result: Very slight improvement. Reference: Jour. of Am. Med. Assoc., 1896, xxvi, p. 1052.

Case 202.—Operator, Wyeth. Cervical region; duration, 4 days. Male, 19; fell on head; remained conscious; intense pain, especially on motion; complete paralysis of motion and sensation in trunk and lower limbs; *right arm partially paralyzed and anesthesia* of its ulnar nerve; extension made; marked rise in temperature. Fourth, 5th and 6th C. arches removed; cord almost divided by lamina of 5th C.; cord red, but no signs of hemorrhage. Died 8 days after operation. Reference: Idem.

Case 203.—Operator, Platt. Dorsal region; duration, 11 months. Fell down stairs; 2 months later loss of sensation and motion in legs; incontinence of urine; curve appeared. On entering hospital, 10 months after, was anemic; curve, anterior posterior from 6th to 10th dorsal; whole region thickened; tenderness and edema between scapulæ; dulness below right nipple and all the way back; complete paraplegia and wasting of muscles; no control over bladder or rectum; many bedsores. Two parallel incisions from 4th to 9th D. spines just internal to trans. processes; laminæ of 5th, 6th and 7th dorsal cut; fragments removed. No motion restored; improvement in sensation and bedsores. Death 4 months after operation. Cause of death: Probably a complete transverse lesion. Reference: Boston Med. and Surg. Jour., cxxx, *p. 415.*

Case 204.—Operator, Myles, 1894. Cervical region; duration, 48 hours. Fall, with immediate loss of power over lower extremities; limbs warm, pulse slow and feeble, respiration shallow and rapid, pupils contracted, *pain in neck increasing on movement*, bladder and bowel symptoms, sensation absent, reflexes gone in left leg, present in right; next day, paralysis of both legs, all reflexes absent, right side anesthesia up to nipple, *left to 8th dorsal*, right arm unable to flex or extend fingers, left pronation, supination, extension and flexion gone; pupils contracted, respiration diaphragmatic, legs drawn up. Incision from occiput to 7th C.; fragments removed and 4th and 5th arches. After 24 hours began to sink, and died of dyspnea. Post-mortem observations: Arches of 4th, 5th and 6th C. fractured; also body of 3rd; cord slightly bruised in front, and no displacement of bodies of vertebra. Reference: Medical Press and Circular, London, 1894, pp. 4-7.

Case 205.—Operator, Giles, 1894. Dorsal region: duration, 10 days. Fell on back; complete loss of sensation below umbilicus; hyperesthesia above; paralysis in legs, reflexes gone, bladder paralysis: no deformity; 8th dorsal more movable than the rest; no pain on pressure; high temperature. Compressing bone removed: dura not opened. Gradually became worse. Death 34 hours later. Post-mortem observations: Body of 8th dorsal fractured; no laceration of cord. Reference: Australian Med. Gaz., 1894, xiii, p. 86.

Case 206.—Operator, Ridenour, 1895. Dorsal region. Struck in back by a beam. Arches 6th to 9th dorsal vertebra removed. Sensation returned at once; walked on crutches *after three* months. Reference: Can. Pract., 1895, xx, p. 1.

Case 207.—Reprint from Am. Jour. Med. Sci., 1892. Dorsal region: duration, 5 hours. Fracture and dislocation between 10th and 11th D. vertebræ. Fragments removed; dislocation reduced; spines held together with silk. Improvement in symptoms; recovery. Reference: Ibid.

Case 208.—Operator, Boyle, 1895. Dorsal region. Dislocation between 9th and 10th dorsal: also between 12th D. and 1st L. Arches from 9th dorsal to 1st L. removed. Good sensation and motion; recovery. Reference: Ibid.

Case 209.—Operators, Church and Eisendrath. *Dorsal region.* Fracture and dislocation of 10th dorsal; complete paraplegia. Extradural clot removed and reduction. Improvement in symptoms; cured. Reference: Ibid.

Case 210.—Operator, Galaudet, 1895. Dorsolumbar region; duration, 48 hours. Fracture of laminæ of pedicles of 12th dorsal and 1st L.; dislocation between 1st and 2nd lumbar. Fractured portions removed and dislocation reduced. Recovery from operation; bedsores and cystitis developed. Thirteen months later sensation returned to lower extremities, but no muscular power. Reference: Annals of Surg., vol. xxv, p. 32, 1897.

Case 211.—Operator, Galaudet, 1896. *Lumbar region*; duration, 48 hours. Laminæ of 2nd and 4th L. crushed. Fractured parts removed; 3rd L. intact; dura not opened; spinous processes of 10th, 11th and 12th D. vertebræ removed. Recovery from operation. Three weeks later sensation returned to lower extremities. Reference: Ibid.

Case 212.—Operator, Galaudet, 1890. Dorsal region: duration, 5 days. Complete anesthesia of lower limbs and trunk below point of fracture. Removed laminæ of 4th, 5th and 6th dorsal vertebræ: dura opened and cord found normal. Recovery from operation. Convulsion of both upper extremities 6 hours after operation, followed by their *complete paralysis*. Death 10 minutes after convulsions. Post-mortem negative. Reference: Ibid.

Case 213.—Operator, Hudson. Cervical region: duration, 5 weeks. Male, aged 19, dived into shallow water; paralyzed from neck down, except shoulders and elbows; three weeks later head held back and pupils contracted and not active to light; arms abducted *and rotated out*, forearms pronated, left arm partly paralyzed and sensation absent below 2nd rib in front, 2nd dorsal spine behind; breathing diaphragmatic and pulse regular and strong; large bedsore on sacrum and right shoulder; four abscesses below umbilicus, which healed on treatment; incontinence of urine and of feces at times; temperature sometimes as high as 104 degrees. Wound packed with hot sponge; 7th C. arches removed; processes with forceps, lamina of 6th C. with rongeur; no pulsation of dura; body of 5th C. almost occluded canal. Died on eighth day. Reference: Jour. of Nervous and Ment. Diseases, 1897, xxiv, p. 357.

CASE 214.—Operator, Hersey, 1895. Dorsal region; duration, 5 months. Male, aged 13; fell from tree. Depression of 4th D. crepitus: complete paralysis below injury; movement of arms also impaired; temperature 100 degrees, pulse 78, respiration 32; plaster jacket and extension used three weeks after injury and gave relief, but did not improve condition greatly; removed 15 days later; 35 days later, incontinence of urine, bedsores. Cut transverse processes of 4th, 5th and 6th D. and removed them. Spinous processes removed; deep silkworm sutures used; catgut superficially. Died 19 months after operation. Reference: Atlantic Med. Weekly vol. viii, p. 370, 1897.

CASE 215.—Operator, Godding, 1896. Dorsal region; duration, 2 weeks. Fell 60 feet; 11 days later left leg completely paralyzed; could move right foot, sensation normal; rectal and vesical paralysis; depression between dorsal and lumbar vertebræ, patella reflexes absent; temperature 99.8 degrees, pulse 92, respiration 20. Left lamina of 11th D. cut with Hey's saw and chisel; arch of 11th D. removed, dura came away with it; deep sutures of catgut, superficial ones of silkworm gut; no drain. Complete recovery. Reference: Atlantic Med. Weekly, vol. viii, 1897, p. 369.

CASE 216.—Operator, Godding, 1896. Dorsal region; duration, 48 hours. Fell 15 feet and struck across back. Extension applied; partly reduced dislocation; complete paraplegia below umbilicus; retention of urine, priapism, paralysis of rectum; spinal curve to right from 6th to 10th D. crepitus over 8th D.; reflexes absent, temperature 99.2, pulse 72, respiration 20. Cord had been cut through between 7th and 8th D.; catgut drain. Died 16 days later. Reference: Idem.

CASE 217.—Operator, Oliver, 1897. Lumbar region; duration, 35 days. Male, 36; struck by train on head and back; unconscious for a time, complete paralysis of lower limbs, rectal and vesical paralysis; constant priapism for 2 weeks; sensation normal; later, projection of left 12th D. and depression of 1st L.; turning to right caused pain; incontinence of feces, bladder control normal, knee-jerk absent. Laminæ of 1st and 2nd L. cut; pressing fragments removed. Galvanic current and tonics given; regained power of locomotion. Result: Improvement. Reference: Cincinnati Lancet-Clinic, xxxix, p. 615, 1897.

CASE 218.—Operator, Oliver, 1897. Cervical region; duration, 48 hours. Male, aged 62. Alcoholic; fell down stairs while intoxicated. Pulse slow, respiration stertorous, temperature subnormal; complete motor and sensory paralysis below 3rd rib on right side; on left side arm was involved; could flex right arm; rectal and vesical paralysis, superficial reflexes absent. Irregularity at 2nd and 3rd C.; crepitus felt; pupils contracted. Fragments from 2nd and 3rd C. removed. Bedsores appeared where there had been contusions. Died 3 weeks later. Reference: Cincinnati Lancet-Clinic, xxxix, p. 615, 1897.

CASE 219.—Operator, Frank, 1891. Sacro-coccygeal region; duration, 3 years. Male; fell 36 feet; complete paralysis of lower limbs, loss of sensation below hips, rectal and vesical paralysis; bedsores on sacrum. Coccyx and lower part of sacrum with its posterior wall removed and spinous and transverse processes of 4th and 5th L. Good recovery. Reference: Chicago Med. Record, vol. xvi, p. 143.

CASE 220.—Operator, Porter. Dorsal region; duration, 28 months. Male, 25; fell 20 feet, landed on his feet; complete paraplegia; retention and then incontinence of urine. Segments of 11th and 12th D. removed. Unimproved. Reference: Idem.

CASES 221, 222, 223, 224. For these cases see text, pp. 1248-1250.

DISCUSSION.

DR. R. H. DAWBARN, New York City—I wish to emphasize the importance of early operation in these cases and think this Section should go on record as saying so. I had a case some years ago which taught me a lesson. A young man whose spine had been broken had been treated for nearly a year before coming to me. He saw Dr. Seguin and Dr. Gray, who advised against operation. The patient then bought a large galvanic battery and used it on their advice until there was no response. He ultimately agreed to an operation, and I found the spinal cord in one spot subject to bony pressure, and hardly more than scar tissue at that point. Of course the delay had ruined his chance of ever walking again, but he greatly improved in certain symptoms. As against this I had a case five years ago, of a young girl who fell down a shaft, and I succeeded very promptly in getting an operation, which was done inside of two hours. She was paraplegic from the waist, or just below it. I found the eleventh and twelfth dorsal vertebræ crushed and sticking into the cord. My assistant suggested that perhaps one of the bodies might be fractured and attacking the cord also from its front, and sure enough such was the case. A spicule of bone about the size of a lead pencil was found sticking into the cord. I removed the lamina on that side with the rongeur, and finally reached and removed the fragment. Suddenly there was a tremendous rush of blood—evidently from the torn venæ basis vertebræ—which was controlled by a long strip of gauze curved around the spinal cord. I was afraid that this would be the means of conveying infection from air outside, but this proved not to be the case. The result was an ideal recovery, and prompt restoration of walking and all bodily functions. These cases are not in the same category as fracture of the skull. There is not more reason to delay in a case of fracture of the spine where there is hemiplegia or paraplegia and a depressed or deflected spinous process than for delay in a case of fracture of the skull with depression and pressure symptoms. There is no wisdom in waiting to see what would happen, and there is no more danger from shock in the one case than in the other. I would not wait in a case of fracture of the spine, even a needless hour, for more hopeless cases can not be found than these are. I hope this Section takes the same view that I do.

DR. G. DE N. HOUGH, New Bedford, Mass.—In 1896 I had a case of broken neck in a man who was thrown during a friendly scuffle, striking on top of his head. Paraplegia was immediate. I saw him next day. Both legs and the right arm were affected; temperature 102. He was taken to the hospital; and at 5 o'clock both legs and both arms were paralyzed; temperature 104.5 degrees; spinous process of the seventh cervical vertebra slightly deviated to the left. Laminectomy was performed and he made an uneventful recovery. Soon after the operation I found that he had phthisis. He is still living and I am informed that, except for a decided weakness of the right arm, he is well.

DR. DAWBARN.—The writer and I do not differ in the least. He says that if you have a deflected spinous process you have one more indication for operation, and I agree with him. In saying that he would open the cord, he did not mean that, but the theca spinalis.

Endurance of Vegetarians.—Baelz, of Tokio, is reported in the *Deutsche Med. Woch.* as having stated, at the meeting of the Berlin Medical Society, March 20, that he has found the vegetarian Japanese actually more enduring than meat-eating foreigners in control tests, and the events in China have corroborated his experiences. In the interior of Japan it is impossible for the masses to procure even fish or much rice, and as the Japanese cows do not give milk, they have no butter nor cheese, and the food is limited to barley or buckwheat with one-quarter rice, the soya bean and no meat. The soya bean contains as much albumin as beef and 20 per cent. oil, but the amount of cellulose renders it difficult to digest. The rich Japanese who eat rice more abundantly have soft bones, owing to the lack of lime in the rice. Children who eat much rice have grooves in their bones from the bands of their clothing, although rhachitis is unknown in Japan. Among the tests of endurance he mentioned that he once drove 110 km. in fourteen ours, changing horses six times. A Japanese with a cart made the trip at the same time in 14½ hours. He had two rickisha men trot 40 km. with his weight of 80 kg. every day in the heat of the sun. At the end of fourteen days one of the men had gained .5 kg. in weight. He then added a little meat to their food, but the men said it made them feel tired, so it was suspended after three days. At the end of the twenty-second day of the test the men were as full of energy as at first.

Medical Journals as Teachers.—A correspondent of the *Wiener Klin. Rundschau* criticizes the new official post-graduate courses as superfluous in the large cities, observing that "a good medical journal takes the place of many such courses. The serumtherapy of diphtheria became the common property of the profession without any special course of training. The best teacher is always, and invariably, practice on a basis of thorough knowledge of contemporaneous achievements in science and a discussion of dubious points in professional gatherings."

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CRYOSCOPY OF THE URINE.

Cryoscopy is, in brief, the determination of the freezing point of fluids containing substances in solution. The following are the principal laws deduced by Raoult and others from the study of the freezing point of solutions: 1. All substances, solid, liquid and gaseous, when dissolved in a definite liquid capable of solidification, lower the point of solidification, and this the more the greater the concentration of the solution. 2. If the body dissolved is not combined with or altered by the water of the solution, the lowering of the freezing point is proportional to the molecular weight of the substance dissolved. 3. The solution of an equal number of molecules in a constant quantity of water lowers the freezing point to the same extent no matter what the nature of the substance dissolved may be. 4. When various substances are dissolved in the same solution, the lowering of the freezing point of the common solution is the sum of the lowering produced by each substance when dissolved singly.

On account of electrolytic dissociation of inorganic substances into ions, apparent exceptions to the second and especially the third laws are frequent. Each ion has the same significance in this case as a molecule. Thus dissociation of one molecule of NaCl into the ions Na and Cl would produce the same fall of the freezing point as the two molecules of an organic substance, because these are not dissociated. Van't Hoff's law makes this clear: Equal volumes of isotonic solutions contain the same number of molecules or fragments of molecules, and consequently they have the same freezing point.

In spite of the complexity of organic liquids the foregoing laws are directly applicable to their study, and during the past three or four years, following Koranyi of Budapesth, some work has been done on the cryoscopy of the urine and other organic liquids. The determination of the temperature of congelation is not a difficult procedure. In a recent brochure Claude and Balthazard[1] give the results of cryoscopy of the urine as applied to the diagnosis and prognosis of cardiac and renal diseases and as compared with other methods of exploration of the renal function.

The urine is regarded as the result of the filtration by the glomeruli of a pure, or nearly so, solution of chlorid of sodium, which becomes concentrated by the absorption of water as it passes down the canaliculi and is enriched at the same time with other substances from the blood by a process of molecular exchange, so that for each molecule that passes from the blood into the urine a molecule of chlorid of sodium passes from the canaliculi into the blood. This hypothesis, based largely upon a consideration of osmotic phenomena, serves as a useful guide to understanding the significance of the facts learned by cryoscopy, which permits the calculation of the total molecular diuresis for twenty-four hours and per each kilogram of body weight, and furthermore also the rate of molecular exchange by determining the amount of chlorid of sodium in the urine. The freezing points of normal urine vary between—1.3 and—2.2 degrees. After excessive libations or sudation the extremes may vary still more. By means of certain formulæ the total molecular diuresis, the diuresis of elaborated molecules, and the rate of molecular change, i. e., elimination, may be calculated and the normal standard established. Every cause that raises the arterial tension or the activity of the heart and thus accelerates the flow of blood results in an increase of molecular diuresis, but the rate of molecular exchange does not show a corresponding increase. In cardiac insufficiency and circulatory obstruction molecular diuresis falls while molecular exchange is favored if the kidney is normal. As regards the results of cryoscopy of the urine in the various forms of nephritis, the following general statements may be made: A low molecular diuresis indicates more especially glomerular impermeability, while a fall in the diuresis of elaborated molecules, i. e., elimination in the ordinary sense, points to changes in the renal epithelium, which hinder molecular exchange and prevent the elimination of detrimental substances. In uremia there is a marked diminution in the elimination of complex substances; this is also the case in chronic interstitial nephritis, and this grave prognostic omen may be detected by means of cryoscopy before the clinical symptoms lead one to suspect its existence. In the course of the disease there may be many ups and downs in the urinary condition.

In acute nephritis the interpretation of the phenomena is more difficult as the conditions vary according to the causes and the lesions. Enough work has not been done to divide the cases into groups; the clinical symptoms are often masked by the associated intoxication and infection, and cryoscopy throws a welcome light upon the condition of the renal function. In the subacute and chronic forms of nephritis, diffuse or parenchymatous, the pathological physiology is also subject to many variations, periods of insufficient elimination alternating with periods of functional activity, often exaggerated above the normal. Comparing cryoscopy with other methods of urinary examination it is notable that the chemical study of the toxic substances in the urine necessitates prolonged and delicate manipulations, which unfortunately are rarely directly applicable in clinical cases where immediate results are desired. The authors point out that while the administration of methylene blue and the study of its elimination by the urine may throw much light upon the general condition of the renal function, cryoscopy distinguishes between glomerular insufficiency and impermeability of the epithelium of the urinary tubules.

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[1] La Cryoscopie des Urines, Paris, 1901.

It seems not unlikely, from what has been merely hinted at in the foregoing, that cryoscopy may clear up a number of points in the pathological physiology of the kidneys concerning which the clinician desires daily information. The condition of the renal permeability remains as the principal prognostic indicator, whatever the anatomico-clinical type of the renal lesion may be. From the standpoint of cryoscopy and pathological physiology the various forms of nephritis present marked analogies. The future must show to what extent the application of this method of physical examination may be rendered practically useful in clinical work. The work already done indicates the great value to medicine of all advances along chemico-physical lines.

HEMORRHAGIC TYPHOID FEVER.

Hemorrhagic typhoid fever does not mean cases marked by intestinal hemorrhage, ordinary epistaxis, and petechial eruption, but certain infrequent instances in which there occur multiple hemorrhages in various parts of the body, especially the skin and some mucous membranes. It is the hemorrhagic putrid fever of the early French writers. Cases have recently been described by Nicholls[1] and Hamburgher.[2] Multiple hemorrhages are rare in typhoid fever. Hamburgher states that of 1900 cases in Basel only 3 showed hemorrhagic diathesis. The case he describes is the first in the history of the Johns Hopkins Hospital. Uskow observed 4 in 439 fatal cases, representing 6513 instances of typhoid fever. In Montreal 3 cases occurred among 543 patients. The hemorrhages occur oftenest in the skin, but may take place also from mucous membranes; there may be bleeding from the gums, epistaxis, hematuria, and bleeding from the vulva. Murchison saw fatal epistaxis. In some instances the hemorrhages are almost universal, post-mortem examinations showing hemorrhages in the serous membranes, the muscles, and internal organs. There are no other special symptoms characteristic of this form of typhoid fever. Possibly furunculosis is more pronounced in hemorrhagic cases. There seems to be no definite period for the onset of the hemorrhages, which may appear early in the attack, most commonly however as the fever subsides; they may come on during a relapse, as in the case of Hamburgher.

The causes are on the whole somewhat obscure. It has been claimed that the hemorrhagic diathesis is peculiar to some epidemics, and Trousseau speaks of this under the term "medical constitution," but just wherein this alleged epidemic influence resides is wholly undetermined. The appearance of hemorrhages corresponds in some cases to secondary infections of various kinds and localizations (Nicholls). In other instances the cachectic state to which the patients are reduced seems to explain the bleeding. Gerhardt is inclined to place some blame upon the cold-water treatment and the more or less exclusively nitrogenous diet; he thinks that the condition is not unlike scurvy. Idiosyncrasy in the patient is also suggested because Wagner saw hemorrhagic typhoid in three sisters and two brothers, but the idiosyncrasy may have been in the infecting organism just as well as in the infected patients. At all events the theory that the hemorrhagic diathesis results from the action of toxins circulating in the blood seems to harmonize best with the teachings of the present time. The exact source and nature of the toxins remain hidden however, though most likely bacterial in origin. This toxemia would be "the morbid condition that constitutes putridity," as Trousseau has it.

But little is known of the pathological changes that underlie the hemorrhages. Older writers place much stress upon changes in the blood, which they refer to under the indefinite term of "dissolutio sanguinis." When venesection was in vogue there were abundant opportunities to note alterations in the appearances of the blood, which was regarded as the seat of putrid changes. Nicholls found fatty changes in the smaller vessels and the capillaries. There is need of further complete histologic studies. There are no special gross changes in these cases.

Hemorrhagic typhoid is serious, as two-thirds of the patients die (Hamburgher). The treatment is largely if not wholly symptomatic. Gerhardt stops the cold baths and adds simple vegetables and vegetable juices to the diet in order to overcome the scurvy-like condition which he thinks is present. Hamburgher and Nicholls suggest calcium chlorid in order to increase the coagulability of the blood, which should be frequently tested as recommended by Wright.

MUCOUS OR MEMBRANOUS URETERITIS.

Under certain conditions not yet perfectly understood, the secretion poured out upon the surface of mucous membranes undergoes, at times, a sort of coagulation, and as a result of this it may be discharged in irregular masses or shreds, or in the form of actual tubular casts. The disorder is most commonly encountered as occurring in the large intestine, giving rise to the symptoms of mucous or membranous colitis. The peculiar and characteristic materials discharged have been found to consist essentially of mucus, and they are considered to be the products of a secretory neurosis. They can be detached without loss of tissue, and they thus differ from diphtheritic membrane, which is an inflammatory product, with coagulation-necrosis, and which can be detached only with loss of tissue and some bleeding. Patients suffering from mucous colitis almost invariably present other evidences of a neurotic predisposition. An analogous disorder is occasionally observed involving the bronchial tubes and, rarely, the ureter. A case has also been recorded in which a membranous cast of the gall-bladder and the bile-duct gave rise to attacks of biliary colic.

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[1] Montreal Med. Jour., 1901, xxx, 51.

[2] Johns Hopkins Hospital Reports, 1900, viii, 309.

It may be conceived that in all of these affections the secretion of the mucous membrane is altered, both qualitatively and quantitatively, in consequence of some abnormality of innervation of local or of central origin, resulting in the formation of the peculiar mucous masses, shreds or casts. The condition is so unusual in being seated in the ureter that a case recorded recently by Dr. J. A. H. White[1] would seem worthy of special note.

The patient was a woman, 60 years old, of nervous temperament, who complained of repeated attacks of agonizing pain in the left loin, of gradually progressive intensity for twenty years. The pain was constant, though worse in paroxysms radiating from the loin down the front of the abdomen to the inner side of the left thigh. It was not increased on walking about or in riding, except during the presence of an attack. The attacks usually lasted two or three hours, were attended with sweating and vomiting and were followed by collapse. Micturition was increased in frequency, but blood had never been noted in the urine. Great tenderness was present below the left lower ribs posteriorly. Bimanual palpation of the kidney was difficult on account of great rigidity of the abdominal wall, and the kidney could not be distinctly felt to be enlarged. Tenderness and rigidity were noted also along the course of the ureter. The urine was neutral in reaction and contained a trace of albumin with a few leukocytes. That passed after an attack contained a larger amount of albumin and a few blood-cells, together with a number of semitransparent mucoid strings about an inch long and obviously derived from the ureter. Microscopically the structures last named were found to be hollow, elongated, cylindrical bodies of clear mucus, held together by a few threads of fibrin. Improvement followed the administration of an alkaline mixture containing 2 grains of potassium iodid. Reference is made to a similar case reported by von Jaksch, in which the expulsion of a renal calculus was followed by periodic attacks of colic attended with the passage of casts of the ureter 10 centimeters long. Relief was afforded by rendering the urine acid. It is thought that in this present case also an encysted renal calculus was present, which by irritation of the renal plexus caused nutritional disorder of the ureteral mucous membrane.

A CASE OF AUTO-CESAREAN SECTION.

That there is some as yet undiscovered fact or that in the individual case turns the scale for or against infection would appear all too obvious from an abundance of evidence. Of several persons equally exposed, a number will surely be attacked, while another will surely escape. Such susceptibility and immunity are observed not alone in medicine proper, but in surgery as well. The most scrupulous attention to every detail will not in some instances insure against wound infection, while in others the grossest carelessness or even the total want of every precaution will fail to be attended with any undesired result. This latter peculiarity is often strikingly illustrated in the mutilations practiced by the insane, in other self-inflicted injuries and in accidental lesions. A remarkable instance of toleration of this character, bearing the stamp of authenticity, has recently been reported by Dr. Robert Löffler.[1] A woman, 42 years old, the wife of a Turkish peasant, had been bedridden for eight months on account of great weakness and pain in the lower extremities. She was at the end of pregnancy, and as she feared that she would die before the child could be born, she concluded to secure relief from her own resources. Taking an ordinary pocket-knife that she had concealed for the purpose for three days, she cut open the abdomen, and became unconscious after seeing the child extruded. When consciousness returned after a time, the woman awakened her 13-year old daughter, sleeping in the same room, and bade her sew up the abdomen. This was done with the aid of a domestic needle and waxed hemp thread. When a physician was called, after an interval of two days, it was learned further that the woman had lost about two quarts of blood, that the daughter had ligated the umbilical cord and had thrown away the placenta.

On examination, the patient was found to be greatly emaciated and anemic, with signs of old pulmonary tuberculosis. The abdomen was slightly distended, the skin of the abdominal wall flaccid and the musculature atrophic. In the linea alba was an irregular, ragged incision 16 cm. long, beginning 4 cm. above the symphysis pubis and extending three-fingers' breadth above the umbilicus, the lips of which were approximated by a continued suture and healed by primary union in spite of the fact that it had been dressed with moss and a soiled rag. The uterus was enlarged and directed to the right, but not unduly tender. On digital examination the cervix was found spongy, the external os admitting three fingers and the internal os one finger. The mucous membrane of the uterus was also spongy. From the uterus a bloody-serous odorless flow took place. So far as could be learned no attention had been given to closing the uterus. Examination of the bony pelvis was painful, as was also movement of the lower extremities. There was no noteworthy pelvic contraction. The child was 49 cm. long, and weighed 3000 grams. This case is remarkable in several respects, first of all on account of the operation itself, certainly a most desperate and heroic measure; next on account of the absence of serious hemorrhage; then by reason of the spontaneous closure of the uterus; again by reason of the absence of infection; and finally, from the recovery of both mother and child.

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[1] British Med. Jour., Jan. 5, 1901, p. 14.

[1] Wiener Med. Woch., 1901, No. 10, p. 472.

A SELF-CONFESSED FRAUD.

In spite of the advocacy of prominent politicians and officials another fraud has come to grief. The notorious Weltmer magnetic healing concern of Nevada, Mo., advertising over the whole United States and counting its dupes by the thousands, has been brought to confession by the Federal laws. The United States postal authorities investigated the methods of the managers and finally caused their indictment for fraudulent use of the mails. Nine separate counts were found against these men, and, notwithstanding their lawyers, they had to plead guilty and throw themselves upon the mercy of the court. It seems strange that conviction of such frauds as magnetic healers, and similar swindlers, can not be reached in state courts, but there is a satisfaction that when the United States courts are appealed to justice is obtained.

SAN FRANCISCO'S PLAGUE.

Since the report of the Government Commission there has been no denial of the existence of plague in San Francisco, but notwithstanding the fact that the Chinese quarters are being fumigated, etc., a little more positive assurance of the thoroughness of the work would be welcome. It is being done by appointees of the State Board of Health, the dominating element of which had up to the Government's investigation emphatically denied the existence of the disease. One might reasonably prefer to have the work in other hands to feel a positive assurance of its thoroughness, for no halfway measures will suffice. We are informed by our San Francisco correspondent that at present no new cases of plague are being found and that remarkably few deaths from any cause are being reported in Chinatown, which leads to a suspicion that the Chinese are at their old tricks again, hiding their sick and clandestinely interring their dead. If this is a fact the methods of the State Board of Health are not what they should be. It is true that the work is nominally under the supervision of the U. S. Marine-Hospital Bureau, but that fact alone does not, under all the circumstances, lead us to feel a full assurance that the methods and details are absolutely what is demanded. There is reason to fear, moreover, that there may be other plague foci on the Pacific Coast and attention should be given to them also. California and its state authorities owe it to themselves and to the rest of the country to give evidence of no half-heartedness in the measures they take against the Oriental pest that has existed there. It is a misfortune that their acts heretofore have not been such as to insure full confidence.

THE ANTIVIVISECTION QUESTION.

The antivivisectionists have at last been heard from in reply to Dr. Keen's cutting exposé of their unfair methods. The corresponding secretary of their Society, Mrs. Caroline Earle White, attempts a countercharge of misquotation. She says Dr. Keen misrepresents when he says that there were only two alleged instances of experimentation on the human subject mentioned in the humane society's pamphlet, whereas Dr. Wentworth admits performing forty-five experiments and Dr. Berkley admits experimenting on eight patients. What Dr. Keen referred to was charges of making such experiments, not the number of subjects employed; it made no difference whether the cases were one or five hundred so far as the point made by him was concerned. The other charge made against him is that he took advantage of a typographical error to make his case. He stated that a quotation from Tertullian was not to be found on pp. 430, 433, as averred in the pamphlet. Mrs. White says it was to be found on the second line of p. 431, and charges Dr. Keen with wilfully taking advantage of the printer's error of leaving out the dash between the figures. How could he know the omission of the hyphen was the printer's error? He simply looked up the references as given, and if the alleged typographical error had not occurred the reference would have been still ridiculously vague enough to deserve Dr. Keen's criticism. It would have been a curious way to give the reference, "pp. 430-433" for a quotation from the second line of p. 431, yet that is what it is claimed was intended to be done and Dr. Keen is charged with an "evasion of truth" because he did not find it and characterized it as vague and indefinite. The unreasonableness of the zoophile crank could hardly go much farther. These two countercharges, such as they are, are all the defense made to Dr. Keen's letter, a defense which amounts to a practical acknowledgement of the truth of his criticisms.

THE AMERICAN ARMY HOSPITAL AT PEKIN.

The *British Medical Journal's* correspondent with the China expeditionary force, furnishes, in the April 13 issue of that journal, a very complimentary notice of the American army hospital at Pekin. The first fact realized, he says, is "that medical arrangements in the United States Army possess a far higher degree of importance than our own." While he thinks, apparently, that the American soldier is a generally rather coddled employee, he says it is not till he goes to the hospital that he really finds out how his country loves him. It would not be a serious exaggeration in this correspondent's opinion to say that the American hospital in Pekin could hold its own in comparison with most London hospitals. The furnishings, cooking, attendance, and staff all come in for commendation, and one or two disadvantageous comparisons are at least implied between British and American hospital management. The hospital corps men are particularly mentioned as efficient, and it is said that five of them, lent for a special emergency to the British naval hospital at Wei-Hai-Wei, fairly astonished the surgeons there by their wonderful training and efficiency. The correspondent attributes all these excellencies he observed to the very liberal policy of the U. S. Government as regards the army medical expenses. "The *tout ensemble* of the hospital suggested that the Government had given a free hand to a man with his heart in his work; no other explanation seemed forthcoming." Outside testimony of this character is the more satisfactory since yellow journalism at home is so apt to make the most of any possible deficiencies. There has never been any doubt that the Army Medical Department would be equal to any ordinary demands if given a chance, and the conditions in China may be taken as a fair index to those in the Philippines. The American soldier is as well cared for as any in the world and better than most.

THE KNEE-JERK IN CHOREA.

The diagnosis of developed chorea is not usually difficult. There are, however, occasional cases in which the symptoms are slight and doubtful and it is of some interest or importance to recognize the affection. Moreover, if chorea is an infectious disease, as is held probable by many, if not by most, neurologists, it is quite possible that our knowledge of all of its manifestations is not exhaustive. Any addition, therefore, is an advantage, especially if the symptoms noted are of diagnostic value. A peculiarity of the knee reflex in this disorder, described by W. Gordon[1] in a recent article, appears to be such a one, consisting in a retardation of the relaxation of the contracting muscles; the foot is jerked up as quickly as ever, but does not fall at once to its former position. There are varying grades of this sustained contraction, from a very slight sluggishness in the descent to almost a permanent extension of the limb. Gordon finds this symptom common though not present in every case, but he has never found it in a non-choreic and it occurs in unilateral chorea only on the affected side. This symptom has been previously noted in chorea apparently only by Risien Russell, who remarked that "in some cases the resulting contraction of the quadriceps muscle is unduly sustained"; other authorities apparently have given comparatively little study to the reflexes in this disease. It is probably well known that a somewhat similar phenomenon may be observed in some cases of organic brain disease, and also in some irritable neurasthenic states, but there the associated symptoms are different and the value of this symptom as a diagnostic sign of chorea is not affected. Gordon accounts for the symptom by assuming it to be an involuntary movement incited by the knee-jerk, due to a sort of overflow of impulse in the excitable central areas of localization. That such may occur in chorea is, he thinks, demonstrable, and he gives as an illustration the evoking or aggravation of choreic movements in the fingers of the uplifted hands by the putting out of the tongue, another delicate test of the presence of the disease. The hanging up of the knee-jerk seems to him to also point to the overflow of impulse. In whatever way we may account for it, the fact is an addition to our knowledge of the symptomatology of chorea and a possible aid to diagnosis in some less obvious cases of the disorder.

INFLUENZA AND GENERAL MORTALITY.

The Journal[2] editorially called attention to the fact that while the mortality from tuberculosis is decreasing that from pneumonia is steadily on the increase, and now, in many parts of our country at least, exceeds that from any other one cause. In the March *Bulletin*, just published, the Commissioner of Health of Chicago refers to the same facts and quotes the same figures that were in part noticed in our editorial. The point he emphasizes, however, is the "grip" epidemic that has intermittently prevailed during the past ten or eleven years, and to this he apparently refers not only the increase in pneumonia mortality but also a proportionately lesser increase in that from pulmonary tuberculosis. There is little question that the influenzal infection is largely responsible for the marked advance from 6.7 per cent. of total deaths in the 1881-1890 decade to 10.2 per cent. in that of 1891-1900. It is well that he calls attention to the fact, for if there is any epidemic scourge of the present responsible, directly or indirectly, for a greater mortality than is la grippe, it would be hard to say what it is. It is the more dangerous because it is insidious, rarely doing its evil work openly and under its own name, but through its life-sapping toxins destroying the vital resistance to the onset and morbidity of other disorders. As yet also we know too little of its natural history, and popular ignorance as to its infection enhances the danger. As Dr. Reynolds says, "influenza has apparently become domesticated with us," but we do not yet duly appreciate its baleful action as shown in the mortality statistics. Not only pneumonia, but cardiac disorders would also probably show increased mortality, and not only in this country from Canada to Mexico, but also in Great Britain and on the Continent of Europe the mortality records show its influence. It would probably be wrong to attribute the enhanced pneumonia mortality altogether to "grip" infection; Dr. Reynolds' figures show a steady increase from 3.98 per cent. in the decade between 1861-70 to nearly twice this figure before the disturbing element of la grippe intervened. Nor can we estimate this earlier gradual increase as altogether due to the higher percentage of those of advancing years in the general population; there are older communities where this factor can not be counted on, that also show an increase in the mortality from pneumonia prior to the advent of the "grip." How to meet the special dangers of this disease involves is a problem before us that we have yet to solve. The tuberculosis question is, as it at present appears, a comparatively simple one; the mortality it causes is steadily on the decrease, while that from acute pneumococcic infection, whether combined with the influenza virus or not, has passed it in the records of deaths it produces, and it may be we have not yet seen the worst.

DOES PRIMARY CARCINOMA OF BONE OCCUR?

If we take it for granted that carcinoma originates solely from cells of ectodermal or entodermal origin, then primary carcinoma can not develop in bones unless it should be from misplaced remnants of epithelial cells carried into the interior of bones either during embryonal development or as the result of pathologic or traumatic processes. Outside of the bones of the jaws, which occupy a peculiar position when looked at with this question in view, but very few primary carcinomas of bones have been described. An apparently authentic instance is the following by Carola Maier[1]: In direct sequence of a definite trauma without wound of the skin or fracture a squamous carcinoma developed in the interior of the radius. The patient had, at the time of the report, remained in perfect health after amputation three years *previously, thus apparently* excluding the possible metastatic nature of the tumor, which is regarded as springing probably from misplaced epithelial cells and as illustrating Cohnheim's theory. Fittig[2] describes an analogous case: A flat-celled carcinoma developed in the ulna in direct sequence to a definite trauma in an otherwise apparently healthy man. In this case, however, *careful overhauling of* the patient was rewarded with the discovery of a small ulcerating, symptomless carcinoma of the larynx, and so it became quite plain that the ulnar tumor was a metastasis. Similar cases, in which the correct diagnosis was made after the operation, if ever, are not uncommon. Helferich, Billroth, Leuzinger, Goldmann and other authors are cited by Fittig, and it is probable that the majority of the surgeons have had similar experiences. In many of the cases cited the primary tumor was apparently very insignificant because so small and free from local symptoms. The lip, the mammary gland, the thyroid, the prostate, the urinary bladder may be the seat of the primary growth. Perhaps it would be well, in view of the occurrence of osseous metastasis especially *in latent* tumors, to make a preliminary excision for diagnostic purposes of all bone tumors. From the foregoing it is evident that while the occurrence of primary carcinoma of bone can not be denied theoretically, yet *actually it becomes* exceedingly difficult to exclude the possible secondary character of osseous carcinomas. The fact that Carola Maier's patient lived at the end of *three years after* the removal of the tumor does not exclude a slowly growing primary but latent carcinoma in some other part.

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[1] British Med. Jour., March 30, 1901.

[2] April 14, 1900.

[1] Beitr. z. Kl. Chirurgie, 1900, xxvi, 553-556.

Medical News.

ARKANSAS.

A new board of health was organized at Hot Springs, April 11, with City Physician Henry C. Wallace as its medical member.

Arkansas University medical department, Little Rock, held its twenty-second annual commencement exercises April 12. Hon. Jacob Trieber delivered the address to the graduating class of twenty.

A graduate of the notorious "Independent Medical College," Chicago, has been arrested at Pine Bluff, charged with practicing medicine without proper credentials. In default of bond he was committeed to jail.

Medical Bill Defeated.—The bill providing for the regulation of the practice of medicine and surgery in the state, for the appointment of a state board of health, medical examiners and registration, to consist of seven members to serve for a term of four years, was defeated in the senate by a vote of 14 to 13.

CONNECTICUT.

The State Board of Medical Examiners, at its last meeting in New Haven, issued licenses, to practice to seven candidates.

Dr. Walter K. Scofield, U. S. Navy, whose home is in Stamford, was placed on the retired list April 28, with the rank of rear admiral.

Yale Medical School's new building is assured. An anonymous benefactor has given the corporation $100,000 for this purpose, and the contract for the building has been awarded for $96,000.

Typhoid in New Haven.—The recent epidemic of typhoid fever in New Haven, where more than 300 cases have been reported, has been traced by Dr. Frank W. Wright, the health officer, to infection with typhoid germs of one of the city's sources of drinking water. The water from the infected reservoir was immediately shut off and the supply pipes flushed with water from other sources.

GEORGIA.

Dr. James N. Carter has succeeded Dr. Jesse E. Wright as resident physician at the Macon City Hospital.

Presbyterian Hospital, Atlanta, has been granted a charter, and a location and the necessary funds are all that is required. Both of these essentials are progressing favorably, and the committee expects to be able to make a report recommending the erection or remodeling of buildings in a few days.

"Christian Scientists" Denied Charter.—Judge J. H. Lumpkin, of the superior court of Atlanta circuit, refused to grant the "Christian Scientists" a charter, April 19. This refusal was based on the law requiring all persons to be graduates of recognized medical colleges and to pass examination before the State Board of Medical Examiners before being allowed to practice medicine in the state. This decision puts this class of believers in the same class as osteopaths.

ILLINOIS.

The Kerr bill, which required all manufacturers of patent medicine to print the formulæ of their productions on the bottle or wrapper, and also to designate whether the medicines contained any harmful drugs, was defeated in the senate.

Appropriations for charitable institutions are called for by the omnibus bill, and amount to $2,640,449.90, of which all but $375,600 is for the hospitals for the insane, homes for the deaf, dumb, blind and feeble-minded, and the eye and ear infirmary.

Cuban Itch.—Despite the many-times repeated experience all over the country, some physicians still diagnose cases of smallpox as "Cuban itch." Carelessness of this kind has been followed by an epidemic of the disease at Brockton, where there are 65 cases and at Dawson and Hume in the central southern part of the state. Six cases of the disease have also been reported from Lepo, Fulton County.

Chicago.

The Illinois Epileptics' Home has received a gift of $500 from Theodore Oehne.

Dr. Ira D. Isham, who spent the fall and winter in foreign travel, returned to Chicago on April 29.

St. Luke's Hospital is a beneficiary under the will of the late Mrs. Jennie L. Young, to the extent of $5000.

Dr. and Mrs. Silas T. Yount have returned from a four-months' vacation tour to Jamaica, the Bahamas and Florida.

A midwife was found guilty of murder and sentenced to fourteen years in the penitentiary. The offense was the common one of criminal abortion, in which the patient died.

The Woman's Medical College, at the annual meeting, April 24, recommended Dr. Eliza H. Root for dean of the college during the absence of Dr. Marie J. Mergler, away on sick leave. Dr. John Ridlon was elected secretary of the faculty.

The Week's Mortality.—For the week ended April 27, the mortality was 17 per cent. lower than for the preceding week—457 deaths as against 551. Of these 151 were due to diseases of the respiratory system and 26 to violence. The death-rate equals an annual mortality of 13.55 per 1000. Reports from the laboratory show an almost total disappearance of the influenza germ, a very satisfactory condition of the water-supply and a much better quality of milk than is usual at this season of the year.

INDIANA.

Dr. Charles L. Armington, Anderson, has been appointed a member of the State Board of Medical Examiners.

Dr. Christian B. Stemen, Fort Wayne, has been appointed a trustee of Purdue University, to succeed the late General Harrison.

Garrett is to have a new hospital under the charge of Rev. Father Young. The establishment of this institution will obviate the necessity of sending injured employees of the Baltimore and Ohio Railway to Chicago for treatment.

IOWA.

Dr. Lloyd L. Krebs, Cedar Rapids, as a result of competitive examination, has been commissioned first lieutenant and assistant surgeon in the army.

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[2] Ibid., 1901, xxix, 703-712.

Dr. Charles S. James, Centerville. has been appointed the state representative to the American Congress of Tuberculosis, to be held in New York City, May 15 to 17.

MARYLAND.

Dr. Frank H. Ruhl, Lansdowne, has been appointed sanitary officer for the Thirteenth district, Baltimore County.

Dr. Frank R. Rich, Towson, has been appointed physician of the hospital for consumptives near Baltimore, succeeding Dr. G. B. Adams.

Baltimore.

Dr. Herman Westphal, resident physician at the City Hospital for the past two years, will spend a year in study abroad.

Dr. L. Ernest Neale, at a recent meeting of a medical society here, exhibited a negro girl who had borne a child by an entirely normal labor at the age of 11 years, 8 months.

A case of leprosy was discovered last week of more than two years standing. The patient was formerly employed as a nurse, is married and has two children. The disease is of the mixed form.

The second annual banquet of the Society of the Alumni of the University of Pennsylvania in Maryland was held April 22. Drs. Thomas Opie and J. McP. Scott were elected vice-presidents, and Dr. Jos. C. Bloodgood, secretary.

The College of Physicians and Surgeons graduated sixty-one at the twenty-ninth annual commencement held April 27. Mayor Hayes delivered the address to the graduates. Charles H. Brueckner of New Jersey received the first prize.

Dr. Eugene H. Hayward, of Howard County, won the gold medal for scholarship at Baltimore Medical College, the surgical and gynecological prizes. He will become resident physician of Maryland General Hospital May 1, succeeding Dr. Duncan McCalmon, whose resignation takes effect on that date.

The appointments made by the College of Physicians and Surgeons are as follows: City Hospital: Dr. L. H. Stick, resident physician; Drs. L. T. Owen and C. W. G. Rohrer, associates; Drs. J. M. Barry, F. T. Marr, Lewis J. Rosenthal, Joseph L. Sullivan, Homer B. Jester, and Albert F. Conrey, assistants. Assistant in Pasteur Department, Dr. E. T. West. Maternité Hospital: Drs. S. T. Lowry and W. B. Graves, residents. Bayview Asylum, Drs. W. B. T. Smith and J. A. Campbell, assistants.

The University of Maryland's school of medicine, graduated a class of seventy May 1. Rev. W. A. Fletcher made the address. Gold medals were awarded to George W. Hemmeter and Nathan Winslow. The appointments to the University Hospital are as follows: Superintendent, Dr. George H. Stewart; assistant superintendent, Dr. A. A. Matthews; assistant resident surgeons, Drs. W. F. Hargrove, W. H. Smith, and W. R. Rogers; assistant resident physicians, Drs. J. M. B. West and G. W. Hemmeter; assistant gynecologists, Drs. H. A. Naylor and Nathan Winslow; pathologist, Dr. W. E. Kornegay; resident physicians at the Maternité, Drs. B. H. Dorsey, W. S. Rankin and R. P. Carman, assistant-resident physicians at Bayview asylum, Drs. C. H. Lewis and E. D. Weems.

MASSACHUSETTS.

Dr. Joseph Proctor, late city physician of Malden, has been appointed a state medical inspector of the State Board of Charity.

The anti-spitting ordinance at Worcester has been enforced for the first time, and a fine of $5 imposed on a violator who pleaded guilty.

Dr. George E. Winslow, U.S.N., who has been medical director of the Charlestown Navy Yard for 2½ years has been placed on waiting orders.

Dr. Augustus P. Clarke, Cambridge, has resigned as dean and professor of gynecology and abdominal surgery in the College of Physicians and Surgeons, Boston.

MICHIGAN.

State Sanatorium for Nervous Diseases.—A bill has been introduced in the legislature providing for an appropriation of $200,000 to establish a state sanatorium for nervous diseases. The object of this sanatorium is to provide an intermediate place between the home and the insane asylum, and thus to prevent an increase of insanity.

Michigan's Smallpox.—During the ten years, 1890-99, there occurred in Michigan 710 cases of smallpox, with 134 deaths, or about 19 per cent. During the single year 1900 there occurred 608 cases with 8 deaths, or a little over 1 per cent. At the close of the first quarter of 1901, final reports have been received of 77 outbreaks, showing that 500 cases occurred, including 7 deaths, a little less than 1.5 per cent.

Delinquent Health Officers.—Of the 1600 local boards of health, 206 health officers in 67 counties have failed to make to the State Board of Health their annual report for the year 1900. They have been three times asked to comply with the law, and the executive officer of the board has put the subject in the hands of the prosecuting attorneys in the 67 counties, asking that they see to it that the law is complied with and the annual reports of the health officers now delinquent are forthcoming.

MINNESOTA.

Dr. Charles D. Sidle has been appointed resident physician of the Stillwater City Hospital.

The State Board of Medical Examiners, at its April meeting, elected Dr. Pierre A. Hilbert, Melrose, president, and Dr. Carl J. Ringwell, Minneapolis, secretary. Licenses to practice were also granted to ninety applicants.

Smallpox Under Control.—The State Board of Health reports that smallpox is now well under control. The total number of cases for March was 689, of which eighty-one were reported from the range and lumbering districts.

State Sanitarium.—The senate passed the Daugherty bill April 4. It provides for an appropriation of $1000, and a commission of three to be appointed by the governor to select a site for a state sanitarium for consumptives, in the northern pine woods.

MISSOURI.

Dr. Herbert A. Logan, police surgeon of Kansas City, has appointed Drs. J. S. Snider and Charles L. Bell assistant surgeons.

Centenary Hospital. St. Louis, which is to adjoin Barnes Medical College, is to be a six-story structure 60 by 126 feet. It is to be non-sectarian and a private enterprise. Drs. Pinckney French and Alonzo R. Kieffer are members of the board of directors.

NEBRASKA.

Dr. B. F. West, Tecumseh, was recently afflicted with a stroke of paralysis and is now confined to his bed, with the probability that his recovery will be slow.

Omaha Medical College graduated a class of twenty-three on April 24. Dr. E. Benjamin Andrews, chancellor of the University of Nebraska, delivered the doctorate address, on "Medicine and Morals."

Dr. J. Cameron Anderson, Omaha, surgeon-general of the state, has resigned that position and the chair of surgery in the Omaha Medical College, as well as his hospital appointments, and is about to move to New York City.

The Omaha Medical Alumni Association, at its meeting April 25, elected Dr. Willis W. Dean, Sioux City, president; Drs. George R. Gilbert and Henry A. Reichenbach, Omaha, vice-presidents; Dr. George Moqridge, Glenwood, Iowa, secretary, and Dr. Mary L. Tinley, Council Bluffs, treasurer.

NEW YORK.

The Albany Hospital acknowledges receipt of donations aggregating $4506.25.

Dr. and Mrs. Theodore D. Miles, Middletown, and Dr. and Mrs. John T. Howell, Newburgh, sailed for the Mediterranean, April 13, on the *Hohenzollern.*

Dr. George Blumer, of the Bender Laboratory, of Albany, has been appointed director of the Bureau of Bacteriology and Pathology which is a new deartment.

A bill has been passed authorizing payment to the Pasteur Institute of New York for services in caring for poor persons in danger of infection with rabies.

Smallpox at Cohoes.—The State Board of Health reports twelve cases of smallpox at Cohoes, in the vicinity of the Harmony mills. The patients include children and adults. The disease was spread by a man who was taken ill about six weeks ago.

Craig Colony for Epileptics.—The legislature just adjourned passed a special appropriation bill which has been signed by Governor Odell, giving the colony $137,050. The chief item in the bill is one of $90,000 for additional cottages for patients. There are now twenty-eight cottages and buildings at the colony, occupied by 700 patients, and the new appropriation will provide for eight or ten additional cottages and increase the epileptic population to 1000. An appropriation of $125,000 was also given for maintenance, beginning Oct. 1, 1901.

Buffalo.

Drs. Frederick Zingsheim and Paul O. Luedeke have been appointed medical internes in the German Hospital.

Drs. Tripp and Leonard, of the class of 1901, University of Buffalo, have been appointed resident physicians to the Buffalo General Hospital.

The commencement exercises of the medical department of the University of Buffalo were held April 26. There were forty-five members in the graduating class. Dr. W. E. Ford, Utica, delivered the address to the graduates.

The German Hospital Dispensary has elected the following new members: Drs. Thomas Phillips, Frederick Milliner, Julian Riester, Abram Weil, Louis Beyers, Charles Mengis, Frederick Koehler, J. Leidler and A. Schweigert.

Charity Hospital Patients.—All of the Buffalo hospitals have combined in an effort to have the city increase the per capita maintenance of charity cases taken into the hospitals from $4 to $6 a week. The cost of maintenance averages over $9 per capita.

New York City.

The German Hospital has received a bequest of $1000 from the late Colonel Henry Roehr.

Seven new cases of smallpox have been reported in the New York Foundling Hospital. The City Lodging House in First Avenue and Twenty-third Street was recently visited at 2 a. m. by two of the physicians of the health department, and the 493 inmates vaccinated.

Health Board Statistics.—For the week ending April 13 there was a decided decrease in contagious diseases. During the week ending April 6 there were 1620 cases. The greatest decrease was in scarlet fever, which dropped from 725 to 619 cases for the week ending April 13. Smallpox, however, increased two cases, the total being 44.

Bequests to Hospitals.—Joel Goldenberg has left the following bequests to hospitals: To the Mount Sinai Training School for Nurses, $5000; to the Montefiore Home, $4000; to the Mount Sinai Hospital, $3000; to the Presbyterian Hospital, $2000. The entire residuary estate is bequeathed to Mount Sinai Hospital for establising and maintaining a special ward in the hospital, to be known as the "Joel Goldenberg Ward," and to be under the charge of his nephew, Dr. Herman Goldenberg.

A New East Side Hospital.—The Austro-Hungarian Hospital Association, after May 1, will begin to remodel the building now known as the East-side Dispensary. It is in future to be named the Austro-Hungarian Hospital and East-Side Dispensary. The capacity is to be from thirty to thirty-five beds. The money to change the buildings into a hospital has been given by members of the association and others in the colony. The Hungarian miners in Pennsylvania, many of whom are sent here for treatment, have also contributed. About $10,000 has been already raised.

Ambulance Surgeon's Mistake.—An ambulance surgeon of the New York Hospital has been severely criticised for wrongly diagnosing a case of apoplexy, occurring in a respectable and well-dressed woman, as a "plain drunk." The policeman who saw the woman fall in the street urged the surgeon to take her to the hospital, suggesting that she appeared to have some other trouble, but the ambulance surgeon refused. She was accordingly taken in a police patrol to the police station. There the matron insisted that the woman was dangerously ill, and the surgeon was again summoned. Even then it was with difficulty that he was persuaded to take her to the hospital. It was admitted at the hospital that her death there the following evening was caused by apoplexy, nevertheless the case was reported to the coroner's office as one of death from being run over in the street.

OHIO.

D. V. Burkett, a senior student at Ohio Medical University, has been appointed assistant editor and business manager of the *Columbus Medical Journal.*

Dr. Samuel E. Newman, Cincinnati, has started for Vienna, where he will study for six months, returning in December for his interneship in the City Hospital.

The State Board of Medical Registration and Examination met at Columbus, April 18, and admitted 103 physicians to practice, without examination, under the provisions of the Love law.

Toledo Medical College held its twenty-first annual commencement exercises April 25. A class of eight was graduated, one of whom—D. W. Iford—was immediately commissioned captain and assistant surgeon, O. N. G. The address to the class was made by Rev. Campbell Coyle.

PENNSYLVANIA.

Dr. Alexander A. E. McCandless, Pittsburg, has assumed charge as medical director of the Department of Public Safety.

Allentown Hospital has been given $35,000 for the purpose of adding an additional wing to the hospital, for the treatment of surgical cases. The name of the donor has been withheld.

"Christian Science" Treatment.—Willard Schellheimer, aged 26 years, of Sharon, a few days ago met with a railroad accident and was taken to the State Hospital at Mercer for treatment. Both he and his wife, it is claimed, were "Christion Scientists," and the wife insisted on his removal to his home. No regular physician was called in until two hours before his death. It is now claimed by the hospital physicians that death was hastened by his removal, while he was in such a critical condition, and an investigation will likely be held.

Philadelphia.

A eulogy of the late Dr. Richard J. Dunglison, who was president of the Musical Fund Society for thirty-one years, has been adopted by members of that association.

Whooping-Cough a Contagious Disease.—At a recent meeting of the Hygiene Committee of the Board of Education it was decided to add whooping-cough to the list of contagious diseases, this being a cause for exclusion from the public schools.

Dr. Aloysius O. J. Kelly, instructor in clinical medicine in the University of Pennsylvania, recently was elected professor of the theory and practice of medicine in the University of Vermont. He leaves Philadelphia shortly for Burlington to begin his professorial duties, but will return to Philadelphia in the early fall.

Marine Hospital.—Plans have been accepted for the erection of a new building and for remodeling the U. S. Marine-Hospital Service office adjoining the Custom House. The new building will be thoroughly equipped with all improvements for a dispensary, waiting-rooms, examination-rooms, for seamen of American vessels. The officer in command will be Dr. H. W. Austin, who is now in charge, and who devised the plans for the new building.

Books as Contagion Carriers.—In reference to the statement that contagious diseases may be communicated to persons reading the books at one of the free libraries of this city it has been stated that since the incorporation of the library in 1891 there have been about 10,500,000 books received and handled over and over again by the employees of this institution, and not a single one has contracted a contagious disease. Since March 15 there have been 492 cases of contagious diseases reported to the library, 13 in visitors to the library. Seven books were found in infected houses, and these were promptly destroyed.

Philadelphia Polyclinic.—At a special meeting of the board of trustees, held April 22, the resignation of Dr. Ralph W. Seiss as professor of diseases of the ear was accepted. Dr. Francis R. Packard is to be his successor. The trustees also elected Dr. B. M. Randolph, Richmond, Va., as dean of the college and director of the laboratories, to succeed Dr. T. S. Kirkbridge, recently deceased. At present Dr. Randolph is in charge of the Department of Pathology at the Richmond Medical College. He will assume his duties at the Polyclinic after a course of study in Europe.

Removal of Insane Hospital.—The medical faculty of the University of Pennsylvania and others have appeared before Councils for the purpose of urging the speedy removal of the almshouse and insane department of the Philadelphia Hospital (Blockley) to a more suitable location. As it is now arranged, the insane department and the almshouse militates against the institution as a source of great benefit to the thousands of medical students who annually come to Philadelphia. It is now believed that both these departments will be removed to a place near the house of correction, at Holmesburg Junction. Mayor Ashbridge has already signified his willingness to comply with the wishes of those who have asked for the removal of these departments. The sum of $200,000 has been made available for the erection of these new buildings, through the action of Councils.

CANADA.

The present smallpox outbreak in Toronto has cost the city $1400 up to April 27.

Dr. George A. Peters has been given command of the new corps of mounted infantry, now being raised in Toronto. He will have the rank of major.

Dr. Patterson, Winnipeg, under instructions from the Dominion government, is visiting the northern Indian reserves in the territories, to inquire into the reported outbreak of smallpox.

Dr. George Stirling Ryerson, Toronto, has been created a Knight of Grace of the Order of St. John of Jerusalem, for services in South Africa. Mr. Frederick Treves and Mr. A. D. Fripp received similar honors at the same time.

Appointment Asked.—The National Council of Women is asking the state department of the Ontario government, in selecting the staff for the new Coburg asylum for female patients, to appoint a woman physician to the post of assistant medical superintendent.

The suit brought against the College of Physicians and Surgeons of Quebec, by some six applicants to practise medicine in that province, has been decided in favor of the appellants. The college was ordered to grant the licenses and pay $100 damages with costs in each case. An appeal has been entered.

Yellow Fever on Shipboard.—On April 19, H. M. S. *Condor* arrived at the Williamshead Quarantine Station, B. C., flying the yellow flag at her mast head. The vessel sailed from Acapulco on April 9. The exact number of cases of yellow fever among her crew has not yet been ascertained, but the vessel is still in quarantine and will be thoroughly disinfected.

To Test for Tuberculosis.—As a result of negotiations between U. S. Secretary of Agriculture Wilson and the Canadian Minister of Agriculture, an agreement has been reached between the two administrations by which Canada is to have a first-class veterinarian stationed in England to test, for tuberculosis, all British cattle shipped to the United States via Canada.

Services Appreciated.—At the recent meeting of the Canadian branch of the Red Cross Association a resolution of thanks was passed to Dr. Ryerson for work in South Africa, and $500 voted toward defraying his expenses. Letters were read from Lord Roberts and Surgeon-General W. D. Wilson, principal medical officer of the army in South Africa, commending Dr. Ryerson very highly for his valuable services.

Attempt to Annul Degree.—The College of Physicians and Surgeons of Quebec seeks to stop a party practising medicine in that province. It is alleged that at the examination of July, 1898, this man, a student, failed in his written examination. When the successful candidates were called to present themselves for their licenses, he went with them, gave his name, secured his title and walked out as an M.D., and he has been practising medicine ever since. The court took the matter *en delibre.*

Physician Dies from Smallpox.—The value of vaccination has just been brought home to the Toronto profession and the laity generally. Dr. Thomas H. Little, of Toronto, was called about ten days ago to attend a young man recently arrived from Cleveland, Ohio. The Doctor treated his patient, but unfortunately not for smallpox. He contracted the disease himself and a week after died from confluent hemorrhagic smallpox. He had never been vaccinated. All the other patients infected from the first case had the disease in a mild form. Dr. Little was 40 years of age and had been practicing in Toronto twelve years. He was a graduate of the Toronto School of Medicine.

Health Precautions.—Dr. Montizambert, director of public health at Ottawa, is having a strict watch kept in order to guard against the introduction of bubonic plague as well as the spread of smallpox in Canada. At the Pacific Coast all Orientals must undergo a bath at quarantine. With regard to smallpox, forty officers have been detailed for service along the western boundary line between the United States and Canada. A circular has been issued by the Dominion customs to collectors and subcollectors at seaports and inland water ports authorizing them to make careful enquiries into the possible presence of smallpox, and if necessary to call in the services of a medical man to inspect suspected persons.

Toronto Branch, Victorian Order of Nurses.—The annual meeting of this branch of the Victorian Order of Nurses was held in Toronto on April 27, Lady Minto having come up from Ottawa to deliver an address. Her Excellency, speaking of the good work the order was doing in Canada, told of recent encouragement for her cottage hospital scheme for the northwest territories. The Dominion government has promised a grant of $6000. Sir William Macdonald will supplement this with $3000, and there are other contributions of $4000. The report of the superintendent shows that during the past year the local branch treated 249 patients, to whom 4323 visits were made. Thirty-eight Toronto physicians have been added to the list of those employing these nurses throughout the city. The fees for the year amounted to $472. During the past three months the nurses have made 1142 visits and had 95 new patients. Fourteen new physicians have been added in that time, and $152 collected in fees. Dr. James Thorburn presided, and a number of medical men attended the meeting and spoke of the good work the Order was doing in Toronto.

Smallpox in Ontario.—The past week might truly be called "smallpox" week so much has the disease been discussed throughout the province of Ontario during that time. The quarterly meeting of the provincial board of health was held at the secretary's office—Dr. P. H. Bryce—and nothing but smallpox discussed. The disease has broken out among the Mohawk Indians on the reserve on the Grand River, at the city of Brantford, Ont., and the braves are being subjected to a rigid quarantine. The present outbreak in the province is the worst in twenty years, as regards the number of municipalities affected. Several doctors in New Ontario had obstructed the work of the provincial board and the secretary has called on the medical council of the province to discipline these members of the profession who persist in calling the outbreak "chickenpox." An important resolution was adopted by the board that all the unorganized settlements along the lines of communication by railway and water be required to appoint and pay sanitary inspectors. The compulsory vaccination of all employees of lumber and mining camps was also insisted on. Although the disease is so widespread, only two or three deaths have been recorded. Dr. Little's death being the first that has occurred in Toronto since 1888.

FOREIGN.

Glasgow's Smallpox admissions for the week ending April 14 were 33 and the patients under treatment 190.

Dr. Metchinkoff, of the Pasteur Institute, Paris, has been awarded the Wilde gold medal, by the Manchester (Eng.) Literary and Philosophical Society.

Bizzozero's Death.—The eminent Italian pathologist, Giulio Bizzozero, died April 8, in his fifty-sixth year. His friends say that every discovery, every achievement in histology or biologic research in Italy of late years is directly due to his untiring, fostering care of the infant science of histology and the enthusiasm he inspired in his associates and students.

Italian Institute for Scientific Research.—Professor E. Maragliano announces that he has founded and opened an institute for the study and cure of tuberculosis and other infectious diseases, modeled on the Pasteur Institute of Paris. Opportunities are offered physicians for special research and the production of serums, etc., and infectious diseases are cared for free of charge.

Progress of the Plague.—At Capetown, S. A., for the week ending April 6, the records are: Cases admitted: Europeans, 20; colored, 22; Malay, 4; Indian, 3; natives, 13; total, 62. Deaths: Europeans, 3; colored, 17; Malays, 3; Indians, 3; natives, 5; total, 31. On April 16 7 new cases of plague were recorded, including 3 in Europeans and 4 persons found dead, 1 of the latter being a European. The matron of the plague hospital has succumbed to a severe attack. A native case has been discovered in Port Elizabeth. For the week ending April 13, 43 cases and 23 deaths were reported—a considerable diminution as compared with the two preceding weeks. An unsatisfactory feature is that dead bodies are discovered from time to time, showing that the people are witholding information. The total number of cases up to April 13 was 392, of which 152 were fatal. The disease is confined to the Cape Peninsula, with the exception of a few cases imported therefrom into adjacent districts. In India, for the week ending March 23, no fewer than 11,560 deaths from plague occurred, an increase of 2731 over the previous week. In Bombay City, during the week ending March 23, there were 1092 deaths, a diminution of 111 over the previous week. In Calcutta there were 1040 deaths, an increase of 221 over the previous week. Calcutta has never suffered so seriously before and is almost in the same plight as Bombay. But in spite of the magnitude of the epidemic there is no sign of panic as there was three years ago, when the people ran away from the epidemic. In Australia, from Queensland, a case is reported at Pinkenba, at the mouth of the Brisbane River. In West Australia plague exists in a more or less sporadic form.

LONDON LETTER.

British Vital Statistics.

The registrar-general's annual report for 1899 has just been issued. The marriage rate shows a further increase. It was 16.5 per 1000, the highest since 1876, and 1.1 above the mean rate for the ten years, 1889-98. On the other hand the birth rate was 29.3 per 1000, .01 per 1000 below that of the previous year, which had been the lowest on record, and 1 below the mean rate of the ten years, 1889-98. More boys than girls were born, in proportion of 1039 to 1000. The death rate was 18.3 per 1000, against an average of 18.4 in the preceding ten years. The total number of deaths was 581,799, of which 89,235 were attributed to zymotic diseases, 174 to smallpox, 9998 to measles, 3722 to scarlet fever, 6304 to typhoid, 9295 to diphtheria, 10,129 to whooping-cough, 12,417 to influenza, 30,971 to diarrheal disease, 26,325 to cancer, 42,408 to consumption and 18,665 to violence. The deaths of 2121 men and 723 women were attributed to suicide; 143 males and 148 females were victims of homicide. The death-rate from cancer was the highest on record, 829 per million living of the population, in males 672, in females 977.

Lateral Sinus Pyemia and Cerebellar Abscess: Cheyne-Stokes Respiration: Cessation of Respiration Under Anesthesia: Recovery After Two Operations.

At the Medical Society of London, Mr. H. F. Waterhouse recently described this interesting case: A dental surgeon was admitted to hospital April 17, 1899, with lateral sinus pyemia. For the greater part of his life he had suffered from double otorrhea, and for many years from tuberculous abscesses near the right hip. In 1895 he was operated on for a large right supramastoid abscess, and shortly before admission two abscesses of the right hip had been opened. On April 11 he fell ill; the temperature was 100. On the 12th he had a rigor, on the 13th another of half an hour duration and a temperature of 103 F. On the 15th a consultation was held and lateral sinus septic thrombosis was diagnosed, but on which side could not be decided. The temperature was 104.2 F. There were no pupillary changes and no optic neuritis. From this time to April 28 there were repeated rigors and the highest temperature was 105.2 F. A systolic murmur developed after continuous pain over the base of the heart, and there was cough with sputa of the color of prune juice. The condition became profoundly toxemic and apparently hopeless. Much valuable time was lost in waiting to determine upon which side the sinus was affected. At last, on April 28, as the time for interference was passing away, the left lateral sinus was opened and the internal jugular vein divided between two ligatures. A septic thrombus was cleared out of the former. Recovery took place, but on May 1 streptococci were found in the blood. On June 8 there were headache and vomiting and the pulse fell to 56. Drowsiness increased and on June 10 the patient was comatose and there were double optic neuritis, Cheyne-Stokes respiration and a pulse of 50. It was then decided to explore the temporosphenoidal lobe and cerebellar fossa on the left side. Unfortunately the former was first attempted with negative result. Respiration ceased entirely under even partial anesthesia. Artificial respiration was performed. The pulse became imperceptible. As the patient was obviously near death, the exploring syringe was made to perforate the tentorium cerebelli from above. An ounce of fetid pus was obtained and the respiration and pulse recovered at once. The left cerebellar fossa was now rapidly trephined and several drams of pus evacuated. Progress henceforth was satisfactory, although there were for many days word-deafness from injury of the temporosphenoidal convolutions. The patient is now in better health than before his illness and is in practice as a dental surgeon.

PARIS LETTER.

Treatment of Syphilis.

Dr. Brocq, physician at the Broca Hospital, who is considered the most thorough skin specialist in France, recently wrote an essay on the treatment of syphilis by mercury, the following being a synopsis: It has always been an important principle in therapeutics that to act with efficacy drugs must be in a state of dissolution. Since 1888 Dr. Brocq has applied this principle to the use of mercurials administered by the mouth, and he has always preferred using Van Swieten's solution or biniodid in an aqueous solution or as a syrup. He has sometimes given mercury in massive doses, for instance every morning before the first breakfast, or else half the daily dose before the two principal meals of the day. But he has generally preferred giving it in small doses, for instance four to six times a day. After a first period, during which subcutaneous injections were discussed, they have at last come into current use. On the other hand, the method of mercurial frictions has been extended, regulated and made more precise. It would seem that the treatment by gastric absorption had been more or less discredited. It is quite true that this latter means of administering the drug presents serious defects, especially when it is given in the form of pills, as the absorption takes place much less readily in such cases, and the active principle has sometimes an injurious action on the mucous membrane of the intestine. Dr. Brocq admits that this plan of treatment offers certain disadvantages. There is to be taken into consideration the irritating effect produced on the stomach and intestines by the use of pills. When given in the form of a dilution, this is much less to be feared, and, according to Dr. Brocq, milk or Vichy water should be used as a means of administering the drug. When mercury is given in small doses he rarely had occasion to notice any unfavorable symptoms, the digestive functions being sometimes ameliorated. Whenever there is any colic or diarrhea, Dr. Brocq uses paregoric, which he has found most beneficial in such cases. As for the distaste shown by some patients, it is found with very few of those who suffer from intense forms of syphilis, and the preparation can in such cases be flavored to suit the patient's taste. There is a last argument against the use of this solution: it is the bother caused to the patient by having to take his medicine in public. Dr. Hallopeau, of the St. Louis Hospital, has recommended the use of little pellets, which can be allowed to dissolve in the patient's mouth, or else a graduated bottle may be employed, so that the patient may easily determine how much of the solution he should pour out.

The advantages of this method are numerous, according to Dr. Brocq: exact determination of the quantity given, very slight irritation produced, and efficacy of relatively smaller doses of the drug. Dr. Brocq has found that this method produced excellent results in all cases of syphilis, with the exception of certain psoriasiform syphilids of the palms of the hands and the soles of the feet, and in such cases injections of calomel had better be used immediately. Dr. Brocq has been applying this method for the last 3½ years at the Broca Hospital, where he has charge of one of the large venereal services of Paris, and he has treated some 2000 patients with Van Swieten's solution, obtaining a good result in such cases. His article concludes as follows: "It is best not to suppress the gastric method in the treatment of syphilis; just as much as other methods, it has its indications, advantages and usefulness. It is of undoubted advantage in a physician's city practice, where the patient can not afford the expense of subcutaneous injections, but to be efficacious, mercury should not be given in the form of pills, but in a solution and in small doses."

Correspondence.

Implantation of the Ureters.—A Reply.

Chicago, April 29, 1901.

To the Editor:—It gives me great pleasure to be afforded an opportunity of replying to Dr. Fowler's criticism (see last week's Journal) of certain conclusions appearing in my article on "Ureteral Anastomosis" recently published in The Journal (Feb. 16-March 23).

The particular conclusion objected to is the third among the General Conclusions, and reads as follows: "All efforts to prevent ascending renal infection in animals or man, where the ureter has been implanted (into the intestine) without its vesical orifice have proved futile."

In order to show this conclusion false, Dr. Fowler points to his case of uretero-rectal implantation, where the patient has survived bilateral uretero-rectal implantation by the Fowler method 4½ years and is to-day *apparently* in perfect health.

What grounds have I for assuming that this patient's kidneys, as a result of the operative procedure, have been infected, "but that the infection has been overcome with resulting contracted kidneys?" 1. One or both ureters, minus the vesical orifices, have been implanted into the bowel in a comparatively large number of animals, yet *in every* instance where accurate postmortem findings have been given the kidneys were shown to be infected, or to have recovered from an ascending infection.

2. After a most careful search through the literature I have been unable to find a single case of ureteral implantation in the human being which did not correspond in its results with similar experiments made upon animals. The postmortem findings show infection in every case.

3. In February, 1899, I implanted both ureters into the bowel of a dog, using practically the same method employed by Dr. Fowler in his case, except no mucous valve was made (The Journal, March 16, p. 738). The dog remained in perfect health for over a year and probably would have been living yet if she had not been killed for the purposes of my article. In this case of bilateral implantation of the ureters there were no more signs of kidney infection than in Dr. Fowler's case, yet the postmortem examination showed healed pyelonephritic lesions in the form of contracted kidneys. Whenever the other animals experimented upon lived long enough to overcome the primary renal infection connective tissue changes ensued. Why then is it not reasonable and far from being either "gratuitous" or "unwarranted" to assume that the same changes resulted in the kidneys of the boy operated on by Dr. Fowler?

4. It is certainly fair to assume that the danger of ascending infection after implantation of the ureters into the bowel was considered by Dr. Fowler to be particularly great, since he concludes his article by setting forth certain advantages to be derived from his operation as follows: "1. An efficient permanent valve with a mucous surface applied to the mouths of the ureters, is provided. This valve is so situated that it is closely applied to occlude the open ends of the ureters as the rectum becomes filled with urine or when the fecal matter descends from above. 2. Placing the ureters in the submucous space of the rectal wall for a distance of three or more centimeters above the point where these enter the cavity of the rectum affords an additional safeguard against renal infection. In this situation the circular muscular fibers of the bowel wall compress the ureters and secure occlusion at this point during the act of defecation."

Now my experiment upon the dog, where the Fowler technique was employed, showed that the mucous valve and that portion of the ureter projecting into the bowel soon sloughs away, hence can have no effect in preventing ascending infection.

A study of my other experiments will show that the ureters were buried underneath the muscular coat of the bowel as advised by Dr. Fowler, yet kidney infection resulted in every case. It is a beautiful theory to assume that the circular bowel muscles will act upon the ureters and prevent ascending infection, but like so many theories it is not substantiated by facts. So another "important feature" of the operation in question must be considered worthless as a preventive of infection.

5. It is hardly just for Dr. Fowler to make use of italics in calling attention to the fact that no bacteriologic nor microscopic report was made on the mucous valve specimen. The gross specimen differed in no way from many others which I reported in my paper at great length. It clearly showed pyelonephritis, and as my chief object in performing the experiment was to ascertain the fate of the mucous valve within the gut cavity, I did not think it necessary to ask the pathologist to repeat his work on this specimen.

I would also call Dr. Fowler's attention to the fact that I am not even guilty of the inaccuracy ascribed to me in his letter when he says his case "is still living and enjoying the best of health at the end of 4½ years—*not* 3½ years as stated by Dr. Peterson." At the time my paper was written and Dr. Fowler was kind enough to report upon the condition of his patient, 3½ years had elapsed since the operation. I can only congratulate the doctor that the boy has been able to add another year to the score.

6. Among the cases of bilateral uretero-intestinal implantation given in abstract in my article is one by my friend, Dr. Carl Beck, of Chicago. Dr. Beck also devised an operation whereby ascending renal infection could be prevented. The patient on whom he operated survived for some months and was shown before the medical societies as free from infection after ureteral implantation. I challenged this statement in open society, and the autopsy some months later showed marked renal infection.

In conclusion, when I am shown either in animals, or man, a kidney free from infection, where the severed ureter has been implanted in the bowel, then and then only will I feel justified in thinking that Dr. Fowler's case has proved the exception to the universal rule and escaped infection.

Reuben Peterson, M.D.

Immunity Against Zymotic Diseases.

Chicago, April 28, 1901.

To the Editor:—In The Journal of April 27 there appeared a letter by Dr. Corban E. Judd, relating to an article recently published by me in which I had formulated a theory in regard to acquired immunity. Dr. Judd states that Dr. O. P. Davis, of Topeka, Kan., had presented a paper before the Medical Science Club of Topeka, on Feb. 18, 1901, which, to use Dr. Judd's words, "embraced all that Dr. Class sets forth and more." As my paper was published April 13, 1901, a claim for priority is made in favor of Dr. Davis. Priority squabbles are usually not very edifying, and in this case of no particular moment; still, I would like to state my position. Dr. Judd states that Dr. Davis's theory embraced all that I set forth and more. Dr. Davis, by saying "more," made his theory different from mine inasmuch as he says that during the time that immunity continues the attenuated germs continue to reside in the protected body. This statement shows that his theory is not identical with the one formulated by me as I state that the immunity is due to the presence of the antitoxin without saying anything about a continued presence of the micro-organisms. In fact, I think the continued presence of a large variety of pathogenic organisms in the human body would not be borne out by research and is illogical. Even if the two theories were identical the question of priority would not be open for discussion as my paper was written during September, 1900, and was on the program of the Chicago Pathological Society for the meeting held Oct. 18, 1900. Circumstances prevented me from reading it at the time. Shortly afterward I sent it to the publishers in whose hands it was for a long time before Dr. Davis read his paper. If Dr. Judd wishes to investigate the matter further I will be pleased to send him the exact data. As it is I do not lay claim to any special originality in the matter, as the fundamental fact upon which the theory rests was illustrated very forcibly when vaccination came into vogue. However, I tried in my theory to show its application to a wide class of diseases and to elucidate this applicability. I believe similar views have been held by others before, but like the venerable egg trick of Columbus, they needed a practical demonstration. Respectfully,

W. J. Class, M.D.

Lavage of Stomach in Constipation.

Pittsburg, Pa., April 27, 1901.

To the Editor:—In Dr. Spivak's paper on "Lavage of the Stomach as a Therapeutic Agent in the Treatment of Habitual Constipation" (The Journal, April 13.), among other things he says: "The fifth indication, habitual constipation, of which I claim to be the originator until some one claims priority," etc. I desire to state that I have been treating chronic constipation by lavage of the stomach for the past two years, and, I might add, with good results. On May 8, 1900, I read a paper before the Washington County Medical Society of this state, and in it I placed particular stress on the good results obtained by lavage of the stomach in chronic constipation. The following are a few extracts from my paper: "You will note that some of the medicated water which must escape through the pyloric orifice, has a twofold action on the intestines, first as an antiseptic, and second, as a stimulus to peristalsis, thereby helping to overcome constipation which you will nearly always find associated with chronic stomach disease." . . . "I wish to bring to your notice a particularly interesting case which came under my care some months ago, inasmuch as he had been operated on for appendicitis due to chronic constipation." The history and diagnosis was given, and in closing I said: "The stomach symptoms disappeared, but what I wish to show in this case is the complete disappearance of the constipation, the patient's bowels moving regularly once and twice per diem." I still have the original paper from which these quotations are taken. Very truly yours,

E. R. Gardner, M.D.

Mark Twain and "The Doctor" in Innocents Abroad.

Chicago, April 23, 1901.

To the Editor:—Every little while there appears a statement in one of our medical journals concerning some doctor who is or was—for this statement usually appears in an obituary notice "the original of Mark Twain's doctor in 'Innocents Abroad.'" There is, accordingly, a possibility that the original doctor of "Innocents Abroad" may become as numerous as the original Uncle Tom of Mrs. Stowe's famous novel. I have no doubt that these statements are all made in good faith; the explanation doubtless being that the particular person of whom the statement is made has been such a jovial, clever good fellow that he might have been the original of Mark Twain's doctor even if he is not. and so the tradition had gradually grown up around him.

In order to settle the question I wrote to Mr. S. L. Clemens (Mark Twain) a few days ago calling attention to the number of the originals of his doctor, and asking him to let me know who, if anybody, was the original. The following reply from him answers that question:

New York, April 15, 1901.

Dear Sir:—It is true, as you say, that doctor is multiplying from year to year. I have six of him on my list already. I do not remember the one which you enclose. The real one was Dr. A. Reeves Jackson, of Chicago, whose too early death I still lament. Very truly yours. S. L. Clemens.

Wm. Allen Pusey, Esq., Chicago, Ill.

It must be a source of some satisfaction to those who knew Dr. Jackson, with all his charming and original qualities, to know that these have been immortalized in Mark Twain's famous character. Yours truly, Wm. Allen Pusey, M.D.

Brewer's Yeast in Tuberculosis.

Buffalo, N. Y., April, 27, 1901.

To the Editor:—I was interested in the editorial on "General Secondary Infection in the Course of Chronic Pulmonary Tuberculosis." It is important to know that these secondary pyogenic infections occur in tuberculous cases, and they, more than the primary bacillary infection, have to do with many of the annoying symptoms, namely: chills, morning and evening rise of temperature, hectic flush, increasing pallor, night sweats, etc. Many remedies have been recommended to combat these symptoms, especially the night sweats, with but little effect. Some time ago, being interested in the subject of tonsillar infection, I saw, through the courtesy of Dr. Charles Carey, of Buffalo, a case in which, through a pyogenic infection of the tonsil, there followed a retropharyngeal abscess and a pyemia with many metastatic abscesses. Dr. Roswell Park opened the retropharyngeal abscess, but the metastatic ones appeared from time to time in various parts of the skin-surface.

Large quantities of brewer's yeast were given the patient 2 to 4 ounces every three or four hours. It was well tolerated and the patient has made a good recovery. Since this time I have used the brewer's yeast to combat the secondary pyogenic symptoms of ulcerating tubercular cases, and in the two cases in which there were chills, hectic flushes, morning decline, evening rise of temperature has remained normal. There are no further chills, no hectic flushes and no night sweats.

The remedy is easily obtained fresh from any brewery. It may be taken in a tumbler without the addition of other liquid, and my experience is that it is well borne. If the stomach can not tolerate it a rectal enema of double the quantity may be given.

It has been shown by Vaughan and others that the nucleins of the body have much to do with giving to an organism its immunity. The various organs generating neutro-albumin and nucleinic acid give to the body a substance which is destructive to micro-organisms and their toxins. Brewer's yeast contains nucleinic acid and therefore is an excellent therapeutic measure, and one which to my knowledge I have not seen recommended as such for pyogenic infection, whether a pyemia, septicopyemia, or the secondary infections in tuberculosis, diabetes, typhoid, carcinoma, etc. I have noticed yeast nuclein recommended to be given hypodermically in septicemia, but have not seen brewer's yeast mentioned.

Julius Ullman, M.D.

Association News.

Annual Announcement.

The fifty-second annual session (54th year) of the American Medical Association will be held in St. Paul, Minn., on Tuesday, Wednesday, Thursday and Friday, June 4, 5, 6 and 7. commencing on Tuesday at 11 a. m.

DELEGATES.

The delegates shall receive their appointment from permanently organized state medical societies, and such county and district medical societies as are recognized by representation in their respective state societies, from the medical department of the Army, the Navy and the Marine-Hospital Service of the United States, and from oral and dental societies in good standing. *Provided,* however, that no state, county or other auxiliary body sending representatives shall receive into its membership any one who may, after 1901, have received the degree of Doctor of Medicine on less than four years of graded instruction or an equivalent requirement.

Each delegate shall hold his appointment for one year, and until another is appointed to succeed him. and shall participate in all the business and the affairs of the Association.

Each state, county and district medical society, entitled to representation, shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number. *Provided,* however, that the number of delegates from any affiliated society shall not exceed the ratio of one in ten of the members of such society. The Army and Navy, and the Marine-Hospital Service of the United States shall be entitled to the same proportionate representation as that of affiliated medical societies.

No individual who shall be under sentence of expulsion or suspension from any state or local medical society of which he may have been a member, or whose name shall have been, for non-payment of dues, dropped from the rolls of the same, shall be received as a delegate to this Association, or be allowed any of the privileges of a member, until he shall have been relieved from the said sentence or disability by such state or local society, or shall have paid up all arrears of membership; nor shall any person not a member and supporter of a local medical society, where such a one exists, be eligible to membership in the American Medical Association.

No one expelled from this Association shall be received at any time thereafter as a delegate or member, unless by a three-fourths vote of the members present at the meeting to which he is sent, or at which he is proposed.

PERMANENT MEMBERS.

The permanent members shall consist of all those who have served in the capacity of delegates, and of such other members as may receive the appointment by unanimous vote, and shall continue such so long as they remain in good standing in the body from which they were sent as delegates, and comply with the requirements of the By-Laws of the Association. Permanent members shall at all times be entitled to attend the meetings, and participate in the affairs of the Association, so long as they shall continue to conform to its regulations, but without the right of voting.

MEMBERS BY APPLICATION.

Members by application shall consist of such members of the state, county, and district medical societies entitled to representation in this association as shall make application for admission, in writing, to the treasurer, and accompany said application with a certificate of good standing, signed by the president and secretary of the society of which they are members, and the annual fee, $5. They shall have their names on the roll, shall have all the rights and privileges accorded to permanent members, and shall retain their membership on the same terms.

MEMBERS BY INVITATION.

Members by invitation shall consist of distinguished practitioners of foreign countries who may be invited by the officers of Sections or of the Association. They shall hold their connection with this Association until the close of the annual session to which they are invited, and shall be entitled to participate in all of its affairs, as in the case of delegates, but without the right to vote.

RIGHT TO VOTE.

Every member-elect, prior to the permanent organization of the annual meeting, or *before voting on any question*, after the meeting has been organized, *must exhibit his credentials to the proper committee*, and sign these regulations, inscribing his name and address in full, specifying in what capacity he attends, and, if a delegate, the title of the institution from which he has received his appointment.

DELEGATE BADGES.

No one can be registered as a delegate without a certificate as called for by the above clause in the Constitution. Delegates will be furnished with delegate badges on presentation of their credentials.

REGISTRATION AT MEETING.

Each delegate or member, when he registers, is requested to record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section officers.

ADDRESSES IN SECTIONS.

The Chairman of each Section shall prepare an address on the recent advances in the branches belonging to his Section, including such suggestions in regard to improvements or methods of work as he may deem important, and present the same to the Section over which he presides on the first day of its annual session. The reading of such address shall not occupy more than twenty minutes.

LENGTH OF PAPERS.

No paper, the reading of which occupies more than twenty minutes, shall be read before any Section.

A Suggestion as to the American Medical Association.

We have, of course, the sincerest desire that the Association may grow more and more powerful, and to that end we would, in the most friendly spirit, offer a suggestion which we believe would have the effect desired. It is that, without losing the democratic or representative control of the business and decisions—the direction and fate of the organization—some plan may be devised whereby a small number of delegates should thresh out all propositions and decide them according to their combined wisdom and judgment; the general meetings would thus be kept for purely scientific business. If the referendum is instituted, it should be without discussion, by the general body which must vote yea and nay at once upon presentation of the question of supporting the committee's decisions. When in earlier days the Association was made up of a small number, the town-meeting plan of legislation was possible; now that it has grown so large and will continue to grow still larger a manner of expediting the transaction of business should be instituted. A mob can not legislate, can not deliberate dispassionately, and several thousand people even of the best, will be subject to the laws of the psychology of crowds. This representative body might be called the senate. Each senator should be elected by his state organization and represent a stated large number of members and should devote his entire time, to the exclusion of section work, to the business of the Association.—*Am. Med.*, April 27.

Meeting Places at St. Paul.

The halls for meeting places for the general sessions and Sections of the American Medical Association are announced as follows: General Sessions, Metropolitan Opera House; Section on Practice of Medicine, Legislative Hall, State Capitol; Obstetrics and Diseases of Women, Small Masonic Hall; Surgery and Anatomy, Large Masonic Hall; Hygiene and Sanitary Science, Masonic Armory; Ophthalmology, Elks' Hall; Diseases of Children, Ryan Annex, Builders' Exchange; Stomatology, Ryan Hotel; Mental and Nervous Diseases, Committee Room of State Capitol; Cutaneous Medicine and Surgery, Masonic Banquet Hall; Laryngology and Otology, Elks' Dining-Room; Materia Medica, Pharmacy and Therapeutics, Senate Chamber, State Capitol; Physiology and Dietetics, Builders' Exchange, Ryan Annex; Pathology and Bacteriology, Ryan Annex.

Trip to the Yellowstone National Park.

The arrangements for this trip are not yet complete, though practically so. The special train, or trains, will leave St. Paul on the afternoon or evening of the fourth day of the Association meeting, Friday, June 7, the trip taking about thirty hours. As President McKinley and his party are to be at the Park a day or two preceding our visit everything will be in a most promising condition. The total expense of the trip will be $85, which includes railroad fare, sleepers, hotel expenses and conveyances through the Park. The total time occupied will be between eight and ten days from St. Paul. The rate is remarkably low when it is considered that the regular charge for the five and one-half days in the Park is $49.50. Those desiring to take the trip are requested to notify Dr. J. F. Fulton, St. Paul, Minn.

Next Year's Meeting of the Association.

At a special meeting of the Memphis Medical Society, held April 16, a resolution was adopted to the effect that an invitation be tendered to the American Medical Association to meet in Memphis at its regular annual meeting in 1902, and that every effort be made toward securing the same. It is believed by the Memphis people that the Association should go south next year, and that Memphis, with its population of over 110,000, is thoroughly able to entertain the Association. Saratoga Springs, N. Y., is also preparing to advocate at St. Paul the meeting of the Association at the Springs in 1902.

Delegates.

Columbia County (Pennsylvania) Medical Society has elected the following delegates to the meeting of the American Medical Association, with power to substitute: Dr. Geo. L. Reagan, Berwick; Edward L. Davis, Berwick; and J. Elmer Shuman, Jerseytown.

Program for the Section on Surgery and Anatomy.

Tuesday, June 4—Afternoon Session.

SURGERY OF THE BRAIN AND SPINAL CORD.

Remarks on the Surgery of the Spinal Cord, with Illustrative Cases. Andrew J. McCosh, New York City.

Spina Bifida, with the Report of an Interesting Case. Paul F. Eve, Nashville, Tenn.

The Methodical Exploration of the Brain for Fluid. Christian Fenger, Chicago.

The Immediate and Remote Effects of Brain Injury. D. S. Fairchild, Clinton, Iowa.

Cases of Trephining for Pathological Lesions of the Brain. John C. Munro, Boston.

Discussion opened by W. W. Keen, Philadelphia.

Wednesday, June 5—Morning Session.

The Mortality of Appendicitis. John B. Deaver, Philadelphia.

Some Unusual Features of Appendicitis and Their Treatment. Ernest Laplace, Philadelphia.

Abdominal Contusions Associated with Rupture of the Intestine. Homer Gage, Worcester, Mass.

The Knot Within the Lumen, in Intestinal Surgery, with Report of Eight Cases. F. Gregory Connell, Chicago.

Surgery of the Colon. H. O. Walker, Detroit, Mich.

Fallacies in the Treatment of Urethral Diseases. Robert Holmes Greene, New York City.

Discussion opened by Willis G. McDonald, Albany, N. Y., and D. A. K. Steele, Chicago.

Wednesday, June 5—Afternoon Session.

THE SURGICAL ASPECT OF CARCINOMA.

The Nature of the Cancerous Process. Roswell Park, Buffalo, N. Y.

The Present Status of the Carcinoma Question. Nicholas Senn, Chicago.

Early Diagnosis of Carcinoma: Methods. Charles A. Powers, Denver, Colo.

The Pathology of Breast Carcinoma and its Relation to Early Diagnosis and Treatment. J. C. Bloodgood and M. B. Tinker, Baltimore, Md.

Carcinoma of the Cecum. Wm. J. Mayo, Rochester, Minn.

Improved Method for Resecting High-Rectal Carcinoma. Robert F. Weir, New York City.

Method of Operating on Carcinoma of the Tongue. J. Collins Warren, Boston.

Treatment of Malignant Diseases by Surgical Operation. Frederick S. Dennis, New York City.

THURSDAY, JUNE 6—MORNING SESSION.

Hemostasis in Amputation at the Hip-Joint, a Resumé of 262 Cases by the Author's Method. John A. Wyeth, New York City.

Autoplastic Suture in Hernia and other Ventral Wounds. L. L. McArthur, Chicago.

A New Method of Skiagraphic Diagnosis for Renal and Ureteral Surgery. L. E. Schmidt and G. Kolischer, Chicago.

Prostatotomy versus Prostatectomy for Prostatic Hypertrophy. Ramon Guiteras, New York City.

Prostatectomy, the Method of Choice in the Management of Prostatic Obstruction. Eugene Fuller, New York City.

A Further Report on Permanent Catheterization. J. R. Eastman, Indianapolis, Ind.

THURSDAY, JUNE 6—AFTERNOON SESSION.

THE SURGERY OF THE CHEST.

Pneumectomy and Pneumotomy. J. B. Murphy, Chicago.

Insufflation of the Lungs and its Application to Pulmonary Surgery. Rudolph Matas, New Orleans, La.

Removal of Foreign Bodies from the Trachea and Bronchi. DeForest Willard, Philadelphia.

Treatment of Empyema. James H. Dunn, Minneapolis, Minn.

Penetrating Wounds of the Chest. Joseph Ransohoff, Cincinnati, Ohio.

Decortication of the Lung. George Ryerson Fowler, Brooklyn, N. Y.

Discussion opened by Frederick W. Parham, New Orleans, La.

FRIDAY, JUNE 7—MORNING SESSION.

ABDOMINAL SURGERY.

Abdominal Surgery. Maurice Richardson, Boston.

The Indications for and Against Total Removal of the Human Stomach. G. Childs Macdonald, San Francisco, Cal.

Diagnosis and Treatment of Kidney Stone. Arthur D. Bevan, Chicago.

The Surgery of the Gall-Bladder and Gall-Ducts. Alexander H. Ferguson, Chicago.

Acute Infective Cholangitis and Cholecystitis as a Complication of Gall-Stones. Daniel N. Eisendrath, Chicago.

Dissecting Abscesses of Abdominal Wall Producing Symptoms Simulating Pott's Disease of the Spine. James B. Bullitt, Louisville, Ky.

Experimental and Clinical Observations on the Therapeutics of Abdominal Surgery. George W. Crile, Cleveland, Ohio.

Discussion opened by Howard A. Kelly, Baltimore, Md., and Frank D. Smythe, Memphis, Tenn.

FRIDAY, JUNE 7—AFTERNOON SESSION.

The Roentgen Rays in Differentiating between Osseous Cyst, Osteosarcoma and Osteomyelitis with Skiagraphic Demonstration. Carl Beck, New York City.

A Simple Operation for the Treatment of Hemorrhoids. J. Rawson Pennington, Chicago.

Fracture of the Femoral Neck. C. E. Ruth, Keokuk, Iowa.

Married.

Cassius Clay Rogers, M.D., to Miss Rena B. Richards, both of Chicago, April 17.

William H. Robin, M.D., to Miss Emma Meyer, both of New Orleans, La., April 17.

C. C. Barnard, M.D., Oakville, Ind., to Miss Amy Leslie, of Arcadia, Ind., April 5.

Edward L. Lyons, M.D., to Miss Minnie McMahon, both of Troy, N. Y., April 10.

J. Homer Pumphrey, M.D., to Miss Anna Moorehead, both of Salem, Ohio, April 3.

O. H. Radkey, M.D., Manor, Texas, to Miss Sadie Hewlett, of Austin, Texas, April 2.

Robbins F. Lilly, M.D., to Mrs. Bessie Baxter Volk, both of Circleville, Ohio, April 24.

Frank F. Smith, M.D., to Miss Nannie Miller, both of Cumberland, Md., April 3.

Prince C. Page, M.D., Bangor, Me., to Miss Ida May North, of Riverdale, Md., April 18.

J. B. Guthrie, Jr., M.D., New Orleans, to Miss Sara Hall, of Little Rock, Ark., April 9.

Harry H. Rittenhouse, M.D., Chicago, to Miss Lilias Y. Wood, of Cairo, Ill., April 30.

James Davidson McDowell, M.D., to Miss Hattie Spencer, both of Yorkville, S. C., April 3.

Sylvester A. Preston, M.D., Beemer, Neb., to Miss Ellen Bonine, of Omaha, Neb., April 10.

Orthello S. Langworthy, M.D., to Mrs. Minnie E. Sheldon, both of Hamilton, N. Y., April 17.

H. F. Schroeder, M.D., Marinette, Wis., to Miss Mary Cecilia Consadine, of Philadelphia.

Arthur P. Hering, M.D., Baltimore, to Miss Agnes Louise Kinney, at Staunton, Va., April 10.

Warren L. Cameron, M.D., Medford, Ore., to Miss Katharine C. Vail, of Chicago, April 25.

Charles L. Reese, M.D., New York, N. Y., to Miss Harriett Stedman Bent in Baltimore April 10.

A. W. Hon, M.D., Bloomington, Ind., to Miss Cora McFadden, of Harrodsburg, Ind., April 10.

William McIlwain Thompson, M.D., Chicago, to Miss Anna Caruth Hill, of Boston, Mass., April 24.

Thomas H. Jamieson, M.D., Wellington, Kan., to Miss Laura J. Bixby, of Hutchinson, Kan., April 24.

William A. Brittin, M.D., Auburn, Ill., to Miss Anna Painter, formerly of Streator, Ill., April 9.

Charles Edgar Aucalt, M.D., Fredericksburg, Va., to Miss Lydia Florence New, at Baltimore, April 10.

John J. Eargle, M.D., Proctor, Texas, to Miss Louis Lee, of Lexington, Okla., at Purcell, Ind. T., March 18.

Bernard Lawriston Hardin, M.D., Washington, D.C., to Miss Rosalie T. Scott, of Warrenton, Va., April 11.

Arthur H. Hawkins, Cumberland, Md., to Miss Louise Bland Brokenbrough Price, at Orange, Va., April 10.

Stuart W. Cassard, M.D., Baltimore, to Miss Mary Elizabeth Jenifer, at Towson, Baltimore County, Md., April 24.

Frederick L. Clark, M.D., New Bedford, Mass., to Miss Myra Allen Dwelley, of Fairhaven, Mass., at New Bedford, April 8.

Charles W. Brown, M.D., of Philadelphia, to Miss Florence Thomas, daughter of Dr. Bruce Thomas, of Kensington, Md., April 17.

Dr. Howard H. Hopkins, Jr., M.D., to Miss Alice Eleanor Griffith Wood, both of Newmarket, Frederick County, Md., April 10.

Alexander McK. Campbell, M.D., Grand Rapids, Mich., to Miss Annie Maclean, daughter of Dr. Donald Maclean, of Detroit. The former pupils and intimate professional associates of the bride's father presented a handsome antique silver tea and coffee service to the bride.

Deaths and Obituaries.

Thomas Hepburn Buckler, M.D., University of Maryland, Baltimore, 1835, died in Baltimore, April 20, rather suddenly, aged 89. From 1840 to 1850 he was physician to the City Almshouse and wrote a history of the epidemic of cholera there in 1849. The waters of the Gunpowder River were introduced into Baltimore on his suggestion, and for many years he strenuously, although unsuccessfully, urged the filling up of the "basin," or inner harbor of Baltimore. He introduced the phosphate of ammonia in the treatment of gout and the uric acid diathesis, and the succinate of iron and chloroform as gall-stone solvents. From 1866 to 1890 he practiced in Paris under a license from the French government, and represented the state of Maryland in 1878 as Commissioner to the French Exposition. He returned to Baltimore in 1890, but had not practiced since that time.

William Henry Draper, M.D., College of Physicians and Surgeons, 1855, died at his home in New York, from pneumonia, aged 70, April 26. He was born in Battleboro, Vt., 1830, was graduated the head of his class in Columbia College, and after receiving his medical degree studied in Paris and London. He was an authority on skin diseases, was a writer of ability, an acute diagnostician and a popular teacher. Always claiming to be only a general practitioner, probably no one stood higher than he in many circles of influence. He was made professor of diseases of the skin in the College of Physicians and Surgeons in 1869, and eleven years later assumed the chair of clinical medicine. He was made professor emeritus in 1898.

Prof. Giulio Bizzozero, Turin, the prominent Italian pathologist, best known from his researches on the blood, bone-marrow, lymphatic glands, etc., died April 8, after a brief illness, from double pneumonia, aged 56. He was one of the most prominent teachers in medicine in Italy, and his name is familiar throughout the world. Among his students were many of the younger pathologists of Italy, including Golgi, Tizzoni and others. He was a member of most of the Italian and many foreign medical societies, and was a senator of the Kingdom of Italy.

Charles Kerns Dease Tanner, M.D., died at Reading, April 21, from consumption, aged 51. He had represented the Irish Nationalists of the Middle Division of Cork County in parliament since 1885. He was a practising physician of Cork and received his education at Queen's College, Cork, besides pursuing his studies at the Universities of Leipsic and Dublin. Although an habitual obstructionist in the House of Commons, he was personally very popular.

Frederick J. Brockway, M.D., College of Physicians and Surgeons, New York, 1887, of New York City, died at Brattleboro, Vt., April 21, aged 41. He was assistant demonstrator of anatomy and secretary of the faculty in the medical college of which he was a graduate. Besides being a fellow of the New York Academy of Medicine, he belonged to many other scientific bodies.

Charles H. Kenegy, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1877, who had practiced at Plum River, Morseville and other places in Jo Daviess County, Ill., died suddenly from apoplexy, at Scales Mound, Ill., April 21, aged 51.

Edward M. Schaeffer, M.D., University of Maryland, Baltimore, 1880, died from a self-inflicted gunshot wound, April 21, at his home in Baltimore, Md., aged 45. He had been a sufferer from melancholia for some time.

Elmer E. Barr, M.D., Rush Medical College, Chicago, 1893, colored, who practiced in Chicago until 1898, died from consumption at Los Angeles, Cal., where he had gone for his health, April 14, aged 33.

Richard C. Baker, M.D., New York University, 1874, of Brooklyn, E. D., N. Y., died April 24, at Otigo, N. Y., aged 47. From 1888 to 1894 he was secretary and superintendent of the Brooklyn Board of Health.

Charles Dana, M.D., a son of Dr. Charles H. Dana, who died in Florida, March 25, was burned to death while endeavoring to rescue some hares from a burning barn at Tunkhannock, Pa., April 17, aged 45.

Frederick J. Bricker, M.D., University of Wooster, Cleveland, Ohio, 1876, who had practiced for twenty-three years at Aurora, Neb., died at his home in that place, April 22, from meningitis, aged 48.

Edward Watts Morris, M.D., Medical College of Virginia, 1885, died at his home in Birmingham, Ala., April 23, from pneumonia, aged 36. He was a member of the AMERICAN MEDICAL ASSOCIATION.

Edwin D. Swift, M.D., New York University, 1849, who had practiced in Hamden, Conn., for fifty-two years, died at his home near that place, from Bright's disease, April 18, aged 76 years.

Frederick A. Larkin, M.D., Rush Medical College, Chicago, 1892, of Chicago, a member of the AMERICAN MEDICAL ASSOCIATION, died in Philadelphia, after a surgical operation, April 23.

James H. Woodburn, M.D., University of Louisville, Ky., 1857, of Indianapolis, Ind., formerly superintendent of the Central Hospital for the Insane, died suddenly, April 23.

Charles Kelley Gardiner, M.D., Medical College of Virginia, Richmond, 1880, died at Huntington, W. Va., April 14, from the effects of an overdose of laudanum.

George W. Cox, M.D., Medico-Chirurgical College of Philadelphia, 1887, died suddenly from exhaustion following a severe attack of la grippe, April 19, aged 60.

Almon V. Belding, M.D., College of Physicians and Surgeons of the Western District of New York, Fairfield, died in Rochester, N. Y., April 18, aged 94.

B. F. Hill, M.D., who practiced at Mexico, Mo., until two years ago, died from consumption at his father's home in Bardstown, Ky., April 16, aged 45.

George S. Cogswell, M.D., Dartmouth Medical College, Hanover, N. H., 1830, died at his home in Haverhill, Mass., April 21, aged 93.

James S. Carradine, M.D., *University of Pennsylvania*, 1858, of New York City, died from pneumonia, at East Orange, N. J., April 23.

William Harrell, M.D., Louisville (Ky.) Medical College, 1870, died at his home in Tifton, Ga., from pneumonia, April 10, aged 60.

Leonard Howard Moxim, M.D., Medical School of Maine, Brunswick, 1855, died at his home in Hartford, Maine, April 15, aged 71.

Roy Inglis, M.D., College of Physicians and Surgeons, New York, 1890, of Jersey City, N. J., died at Denver, Colo., April 23.

Ira J. Fuller, M.D., University of Vermont, Burlington, 1888, died at his home in Spragueville, N. Y., April 19, aged 43 years.

John J. Durand, M.D., a veteran physician of Chattanooga, Tenn., died from apoplexy at his home in that city, April 16, aged 72.

Lewis R. Kirk, M.D., Jefferson Medical College, Philadelphia, 1853, died at Rising Sun, Md., April 19, of heart trouble, aged 69.

Alfred H. Hiatt, M.D., Medical College of Ohio, Cincinnati, 1846, died at his home in Chicago, April 26, aged 77.

Miscellany.

A Christian Science Miracle.—The *New York Med. Jour.*, April 13, is responsible for the following: It is related that Charles Lamb and Douglas Jerrold were once discussing the extent to which animals could be domesticated, when Lamb in support of his argument told the story of a tame oyster which used to follow him up and down stairs. To this Jerrold retorted that the oyster had one advantage at least over Lamb. "What is that?" asked Lamb. "It knows when to shut its mouth," tartly responded Jerrold. At the recent dedication of a new Christian Science meeting house it was officially stated that a granite corner-stone had been duly carved with an inscription wrongly given under a mis-apprehension, and that the day before it was to be laid the mistake was discovered too late to admit of alteration. The omnipotent witchery of Christian Science methods, the mental concentration and focussing of "truth" upon this "error of mortal mind" enshrined in granite, was brought to bear by the undaunted devotees, when, lo! upon uncovering the block it was found that the erroneous carving had disappeared and an unexceptionable inscription had taken its place. We are curious to know whether the engraver was guilty of a fortunate disregard of his instructions, or the error therein was discovered and corrected in time, but secretly for the sake of subsequent "effect," or the narrator——. But, no. Let us rest content with recommending the moral of the Lamb-Jerrold story to the notice of the votaries of Christian Science.

The Refracting Optician.—The *Providence* (R. I.) *Med. Journal* for April says: "Not long ago the following letter was received by an oculist in this city from one of the enterprising opticians who flourish in the rich soil of Rhode Island fertilized by an inefficient medical practice act: 'Dr. ——, Dear Sir: I wish to make a proposition to you. For every prescription you send to me I will give you one-third of the profits, send your statement and money the first of every week. This is to be strictly confidential. Hoping to have some of your work, I remain very truly yours, ——.' It is strange that any one should expect to find a physician so false to his professional honor that he would for a moment consider such a proposition. It is both insulting and degrading and, would it serve any good, the name of the writer would be appended to the letter; but it serves as a text to speak of a growing evil in our city and state. The daily papers, both city and county, are filled with advertisements of jewelers and opticians, opticists and refractionists, who fit all eyes, correctly measure for glasses and cure headaches, nervous affections and even more serious ailments. At any rate, one would be justified in assuming that they could do all this if credence is given to the advertisements. As a matter of fact, aside from the mechanical part of refraction, which is easily learned, the majority know nothing of physiological optics and are wholly unfitted to deal with either refractive errors or muscular anomalies. The old argument against all law regulating the practice of medicine that every man shall treat his own as he desires, or shall not treat them at all, is inoperative. No man can be allowed by an error of judgment to do himself personal injury, or by parental or marital authority allow harm to come to his family. The State has a right to demand of its citizens compliance with laws which regulate its well-being. This is recognized by both adherents and opponents of the proper regulation of the practice of medicine, on one hand by the interpretation of existing laws and on the other, as in Massachusetts at the present time, by an attempt to pass legislation which will legalize the pseudo-profession of opticists. We may take it for granted, therefore, that some restriction is needed if it can be found that harm results from the present practice of allowing wholly incompetent persons to prescribe for the welfare of the eyes."

Societies.

COMING MEETINGS.

American Medical Association, St. Paul, Minn., June 4-7.
American Surgical Association, Baltimore, Md., May 7-9, 1901.
American Therapeutic Society, Washington, D. C., May 7-9, 1901.
Nebraska State Medical Society, Lincoln, May 7-9, 1901.
Oklahoma Territory Medical Association, Oklahoma City, May 8, 1901.
Mississippi State Medical Association, Jackson, May 8, 1901.
Washington State Medical Society, Seattle, May 8-9, 1901.
Ohio State Medical Society, Cincinnati, May 8-10, 1901.
Arkansas Medical Society, Hot Springs, May 14-16, 1901.
Medical Association of Montana, Great Falls, May 15-16, 1901.
Michigan State Medical Society, Battle Creek, May 15-16, 1901.
Iowa State Medical Society, Davenport, May 15, 1901.
Indiana State Medical Society, South Bend, May 15-17, 1901.
New Hampshire Medical Society, Concord, May 16-17, 1901.
Medical Association of Missouri, Jefferson City, May 21-23, 1901.
Illinois State Medical Society, Peoria, May 21-23, 1901.
Medical Society of North Carolina, Durham, May 21-23, 1901.
Connecticut Medical Society, Hartford, May 22-23, 1901.
North Dakota Medical Society, Fargo, May 22-23, 1901.
Kentucky State Medical Society, Louisville, May 22-24, 1901.
Medical Society of West Virginia, Grafton, May 22-24, 1901.
American Laryngological, Rhinological and Otological Society, New York City, May 23-25, 1901.
American Laryngological Association, New Haven, Conn., May 27-29, 1901.
American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.
American Gynecological Association, Chicago, May 28, 1901.
American Climatological Association, Niagara Falls, N. Y., May 30, 1901.
American Association of Military Surgeons of the United States, St. Paul, May 30, 31, June 1, 1901.
American Academy of Medicine, St. Paul, Minn., June 1-3.
National Con. State Medical Examiners and Licensing Boards, St. Paul, Minn., June 3.
Association of American Medical Colleges, St. Paul, June 3.
American Medical Editors' Association, St. Paul, June 3.
Minnesota State Medical Society, St. Paul, June 3.
American Proctological Association, St. Paul, Minn., June 4-5.
American Dermatological Association, Chicago, June 4-6.
Rhode Island Medical Society, Providence, June 6.
International Association of Railway Surgeons, Milwaukee, June 10-12.
Medical Society of Delaware, Lewes, June 11.
American Medico-Psychological Association, Milwaukee, Wis., June 11-14.
Maine Medical Association, Portland, June 12-14.
Massachusetts Medical Society, Boston, June 12.
Colorado State Medical Society, Denver, June 18.
American Orthopedic Association, Niagara Falls, June 18-20.
Medical Society of New Jersey, Allenhurst, June 25-27.
Wisconsin State Medical Society, Waukesha, June 26.

American Proctologic Society.—The third annual meeting of this Society will be held at the Ramsey County Library, St. Paul, Minn., June 4 and 5.

Central (Ky.) Medical Association.—At the April 19 meeting of this Society, at Danville, Dr. George Cowan of that city was elected president, and Dr. Steele Bailey, Stanford, secretary.

Nebraska State Medical Society.—The thirty-third annual meeting of this Society will take place May 7, 8 and 9, at Lincoln, under the presidency of Dr. Harry M. McClanahan, Omaha.

Cecil County (Md.) Medical Society.—At its annual convention, this Society elected Dr. Joseph Veasey Wallace, Chesapeake City, president; Dr. John H. Jamar, Elkton, treasurer, and Dr. Harry P. Hinchliffe, Elkton, secretary.

Hartford County (Conn.) Medical Association.—The one hundred and ninth annual session of this Association was held April 17. Dr. George Clary, New Britain, was elected president; Dr. Nathan Mayer, Hartford, vice-president, and Dr. William G. Craig, Hartford, clerk.

Ohio State Medical Society.—The fifty-sixth annual meeting of this Society will be held at Cincinnati, May 8, 9 and 10, at the Scottish Rite Cathedral, Broadway near Fourth Street. Dr. Frank D. Bain, Kenton, will preside.

Golden Belt (Kan.) Medical Association.—This Association, at its meeting in Abilene, April 18, elected Dr. John C. McClintock, Topeka, president; Dr. John D. Riddell, Enterprise, treasurer, and Dr. E. B. LeFevre, Abilene, secretary. The next meeting will be held in Topeka in July.

Tolland County (Conn.) Medical Association.—The one hundred and ninth annual meeting of this Association was held in Rockville, April 16. Dr. Thomas F. O'Loughlin, Rockville, was elected president; Dr. Eli P. Flint, Rockville, vice-president; and Dr. Edwin T. Davis, Ellington, clerk and treasurer.

Walla Walla (Wash.) Medical Society.—A society to further the interests of the physicians of the city and county has been organized with Dr. Elsworth E. Shaw, president; Dr. Nelson G. Blalock, vice-president; Dr. Samuel A. Owens, secretary and Dr. William Van Patten, treasurer.

Central of Georgia Railway Surgeons' Association.—The annual meeting of this organization occurred in Augusta, April 17, and the following officers were re-elected: Dr. Hunter P. Cooper, Atlanta, president; Dr. Benjamin R. Dostor, Blakely, vice-president, and Dr. Wm. Darracott Travis, Covington, secretary and treasurer.

Shreveport (La.) Medical Society.—The annual meeting of this Society was held April 13, when the following officers were elected: Dr. T. Edgar Schumpert, president; Dr. William L. Egan, vice-president; Dr. Greene C. Chandler, corresponding secretary; Dr. Fred J. Frater, recording secretary, and D. John J. Scott, treasurer.

Austin Flint Medical Society.—The spring meeting of this Society was held at Hampton, Iowa, April 11, and the following officers elected: Dr. Daniel W. Crouse, Waterloo, president; Dr. J. Clinton Powers, Hampton, vice-president, and Dr. Lester C. Kern, Waverly, secretary-treasurer. The July meeting will be at Clear Lake.

Georgia State Medical Association.—The fifty-second annual meeting of this body was held in Augusta, April 17-19, Dr. Samuel C. Benedict, Athens, in the chair. Savannah was selected as the next place of meeting, and the following officers were elected: Dr. James B. Baird, Atlanta, president; Drs. Thomas R. Wright, Augusta, and Jefferson D. Chason, Bainbridge, vice-presidents; and Dr. Louis H. Jones, Atlanta, secretary and treasurer.

Jo Daviess County (Ill.) Medical Society.—The first anniversary meeting of this Society was held in Elizabeth, April 25. Dr. Henry T. Godfrey, Galena, was elected president; Dr. G. E. Miller, Hanover, vice-president; Dr. Domer G. Smith, Elizabeth, secretary, and Dr. T. J. Stafford, Galena, treasurer. Delegates to the AMERICAN MEDICAL ASSOCIATION were also appointed. The Society was entertained at a banquet, by Drs. William Hutton and Domer G. Smith, Elizabeth.

Alabama State Medical Society.—At the annual meeting of this Society, held at Selma, April 16-19, the following officers were elected: Dr. Edwin L. Marechal, Mobile, president; Drs. William T. Pride, Madison Station, and Matthew B. Cameron, Sumterville, vice-presidents; Dr. George P. Waller,

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The truth of the popular opinion of precocity—early ripe, early rotten—is illustrated very frequently. Cratemus, a brother of Antigonus, was an infant, a youth, adult, married, begat children, and senile in seven years. Louis II, of Hungary, was crowned in his second year, at 14 had a complete beard, at 15 was married, at 18 had gray hair, and at 20 died. One boy had external marks of puberty at 12 months, and died senile at 5. Of six cases of early puberty in boys cited by Gould, one, virile at 1 year, died senile at 5. Cazaeux reports the case of a girl who menstruated at 2, became pregnant at 8, was a grandmother and senile at 25. Another child of 3, with the breasts and genitals of a woman, and menstruation of a nubile girl, had a senile appearance.

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The biologic facts stated show that there is a factor at work in intra-uterine life independent of heredity and operating only at certain periods. Heredity, so far as its working forces are concerned, consists of immediate heredity from the parents, of immediate atavism or type heredity and of remote atavism. These forces are usually in conflict. Type heredity and immediate heredity offset remote atavism, as a rule. Deficiency, either immediate heredity or type heredity brings remote atavism into full play, and is the source of degeneracy. Strong type heredity may, however, offset the evil influence of defective immediate heredity. The question of the sway of these factors turns on the etiologic moment of the period of stress when either the organism balance or some structure or function may be checked to give undue play to a structure or function useless or worse under the present biologic status of man. Heredity, therefore, is modified by an etiologic moment occurring at the period of stress. Malign heredity is often destroyed or diminished by the immediate effects of type heredity. Hence, in even the most hereditarily defective families sound members are found. Variations are often introduced by the struggle between the hereditary forces at the periods of stress which prove beneficial under a favoring environment. Hypertrophy due to degeneracy may thus place the subject in a higher position than the ancestor under the favoring influence of environment.

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Dr. Charles S. Bacon said that it is fairly well established that periodicity exists in growth and changes. This is noticeable when the earliest forms of cell development are studied. When the fertilized ovum is studied under the microscope, a quiescent state is noted until suddenly the nucleus and cell divide and in the course of a short time, the homogeneous mass assumes another shape. In the child an important cycle occurs at puberty, and later, both in male and female, are cycles corresponding more or less to monthly changes. Periodicity then becomes a well-established fact. The importance of sound balance for the developing organism, at those periods, is undoubtedly great. The intra-uterine being is quite independent of the mother. The child may be fairly well nourished, although the mother is improperly nourished. In starving mothers the child is often well developed. So the periods of the child's development are not so dependent on the mother's condition as might at first appear. While important periods occur in the development of the child, it does not follow that those periods should coincide with the mother's period.

Dr. Eugene S. Talbot stated that perhaps no structures in the body are so much affected by the law of economy of growth as the face, jaws and teeth. Under this law is exerted a natural force causing brain development and resultant jaw recession. The jaws are not now required for the purpose they were originally, hence an arrest of development is taking place. Originally the jaws measured 2¾ inches across; now the average one measures only about two inches. On some adult patients the jaws only measure three-quarters of an inch. The senile stage occurs at about 4½ months of fetal life, a period in which the teeth are more readily affected than any other structures of the body. If change should occur about the fourth month of fetal life, the teeth are liable to alter in shape and structure. Teeth without enamel are frequently found, sometimes slight amounts of enamel may be found on some teeth. Occasionally children are born who have no teeth throughout life. These changes are the effect of the swaying between the diphyodont normal state and the polyphyodont state of reptiles at a period of stress.

Absorption of the alveolar process is an expression of polyphyodont physiology. Were a man to live long enough, he would lose his second set of teeth by osteomalacia or senile absorption. Senile absorption may occur at any period in the life of the individual. It is more frequently noticed in degenerates, neurotics, deaf-mutes, congenitally blind and idiots. To this senile condition is due the transitory nature of the alveolar process. Decay of the teeth is a natural process.

Dr. Sanger Brown believes that there is no warrant for designating the changes described as periods of stress, because they did not take place properly. Physicians are not warranted in regarding those periods in which changes are observable as of more importance than those that are imperceptible between the manifestations observed. While a law of observable periodicity is perhaps admissible, yet this is not equivalent to proving that observable manifestations are more important or exert more influence upon development than the periods when so much activity can not be observed.

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Montgomery, secretary: Dr. Henry G. Perry, Greensboro, treasurer, and Dr. Edwin B. Ward, Selma, orator. Birmingham was selected as the place for the next annual meeting.

Medical Society of the State of California.—The annual session of this Society was held at Sacramento, April 16-18. A proposition to establish a monthly journal as the organ of the Society was voted down. San Francisco was selected as the next meeting place. The following officers were elected: Dr. William J. G. Dawson, St. Helena, president; Drs. Frank B. Carpenter, San Francisco, and Frank L. Adams, Oakland, vice-presidents; Dr. George H. Evans, San Francisco, secretary; Drs. Z. Taylor Malaby and William F. Barbat, San Francisco, assistant secretaries; Dr. Elmer E. Kelley, San Francisco, treasurer, and Drs. Charles C. Wadsworth, San Francisco, Dudley Tait. Ventura, Cephas S. Bard, Ventura, David Powell, Marysville, and Daniel E. Osborne, St. Helena, board of medical examiners.

Erie County (N. Y.) Society for the Prevention of Tuberculosis.—An informal meeting of this newly organized Society was held April 18. Encouraging letters were read from other societies with a like purpose. The lines of work laid down are as follows: 1, promulgating the doctrine of the contagiousness of the disease; 2, instructing the public in practical methods of its avoidance and prevention; 3, advocating the establishment of institutions for its early treatment; 4, co-operating with boards of health in such measures as may tend to the prevention of the disease; 5, advocating the enactment of proper legislation, and 6, taking such other measures as from time to time may be deemed necessary to check the ravages of tuberculosis.

South Carolina Medical Association.—The fifty-first annual meeting of this organization was held in Florence, April 17 and 18. Dr. Wharton Sinkler, of Philadelphia, delivered the annual address. The application of graduates of the class of 1900-01 of the South Carolina Medical College, for membership were held over till the next annual meeting for consideration, or until they comply with the requirements of the law. The following officers were elected: Dr. Theodore G. Croft, Aiken, president; Drs. Curran B. Earle, Greenville, W. Price Timmerman, and John T. Darwin, Blacksburg, vice-presidents: Dr. William Weston, Columbia, corresponding secretary; Dr. T. Prioleau Whaley, Charleston, recording secretary, and Dr. Barnard E. Baker, Charleston, treasurer. Dr. Walter P. Porcher, Charleston, was chosen as a member of the Board of Medical Examiners, to succeed Dr. Robert L. Brodie.

DETROIT MEDICAL SOCIETY.

Meeting held April 3.

Hydrocele of Round Ligament.

Dr. Frank D. Summers exhibited a very rare and interesting hydrocele tumor of the round ligament. It was about four inches in length and the size of a large Frankfurt sausage. The upper portion had been constricted by the left inguinal ring so that a cyst tumor about the size of a large walnut was within the abdominal cavity. The lower end of the tumor was attached in the left labium majus.

About ten years ago the woman called a surgeon to reduce for her an inguinal hernia, and it had to be done under chloroform. Following his advice she wore a truss until about three months ago. On Saturday, March 30, her attention was attracted to the left inguinal region by a sudden sharp pain, followed by a chill, at which time she discovered the swelling; and considering it the same old hernia that had come out before, she thought she could probably reduce it herself. By the next day (Sunday) her pain was so intense that she called Dr. Summers, and he found a tumefaction that would not reduce and ordered her to St. Mary's Hospital and operated at once with the above results. He dissected out the tumor very carefully, with a portion of the round ligament attached to each end, and closed up the inguinal ring completely, which is healing by first intention.

Elasticity of the Skull.

Dr. Angus McLean read a paper on this subject and exhibited specimens. This was demonstrated on the cadaver by placing clamps over the lateral and anteroposterior regions. In lateral compression this diameter was decreased half an inch and in longitudinal three-eights of an inch before the cranium fractured. When one diameter was diminished the others were increased. The calvaria was removed while the clamps were in position, and comparison made. The superior-inferior measurements were made by boring gimlet holes through the vertex and passing small graded steel rods to the base. The skull did not fracture at the points of compression, but through the anterior base. Serious endocranial lesions *might be produced without any bone lesion.*

CHICAGO ACADEMY OF MEDICINE.

Meeting held March 27.

Dr. W. X. Sudduth in the chair.

Intrauterine Periods of Stress.

Dr. James G. Kiernan read a paper on this subject. After some introductory remarks, he said: The law of economy of growth governs the relation of the organs to each other and the operation of the process whereby one structure is sacrificed for the development of another. Since the evolution of organs certain parts disappear, certain ones through suppressive economy, and since the disappearing and developing tendency of necessity centers around the time when certain functions are to be lost by the disappearing, and others gained by the developing, periods of stress occur around which the law of economy of growth centers the struggle for existence between parts of organs and between organs themselves. Because of this, physiologic atrophies and hypertrophies occur. Nearly all conditions of physiologic disturbance may result at these periods of stress from the influence of maternal nutrition or environment, or of hereditary factors.

While the fetus may pass through all periods of stress, a seeming replica of its immediate ancestors, still since nutriment assimilable by a given organism is limited, a check of development at certain stages often turns the nutriment in the direction of organs or cells or functions which should disappear at that particular stage. Man passes through the polyphyodont potentiality before reaching the diphyodont, which is the dental characteristic of the race. Arrest of development at the period when polyphyodont potentialities are present implies the dentition found in the Sauropsidæ, where teeth continually disappear to be continually replaced. Through such arrest a child may develop successively several hundred teeth. Since teeth are among the most variable structures in evolution, upon them is peculiarly evident the effects of stress. The struggle between the diphyodont and the polyphyodont condition early in human embryogeny may result in jaw atrophy and tooth increase in size. On the other hand, tooth decrease in size and jaw hypertrophy may occur. In the first case, decided irregularity of the teeth occurs in a comparatively normal subject. In the second case, seeming absence of irregularity will occur in a hereditarily defective subject. Jaw decrease as well as arrest of the face has been determined by general surrender of the system to brain growth. The development of the face in vertebrates is checked in man, because the upright position renders it unnecessary to bend the head as in quadrupeds, and because the enormous cerebral development has rendered necessary brain cavity enlargement by extending the cavity over the nose region, in addition to enlarging the skull. Normal vertebrate development of the face is therefore arrested in man at an embryonic stage. The long jowl, an advance in face development, does not occur in man. The skull is a development partly of the vertebræ, and partly of dermal bones. The dermal bones are the frontals, the parietals, the nasal bones, the pterygoids, palatines, maxillaries, premaxillaries and mandibles. The fontanelles in the child are spots in which dermal bones are yet to be formed. Development of the brain depends upon the growing power of the secondary skull formed by the dermal bones. These considered as bones are degenerate remains of the outer skeleton of the head which in early fish and reptiles emulated the lobster. Because of their very degeneracy they have been utilized to aid in covering the brain.

Dr. Kiernan then enumerated some of the conditions of fetal life corresponding to permanent phases in the lower animals, and said that as the power of passing through the fetal period of stress will depend on the condition in which the fetal organism is at the time of the period of stress, and as this condition of the fetal organism will depend partly on factors inherited and partly on the material condition, it must be obvious that defect in either at these periods of stress may so disarrange the struggle for existence between the fetal organs that reversionary conditions will gain the ascendancy.

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Dr. Sanger Brown believes that there is no warrant for designating the changes described as periods of stress, because they did not take place properly. Physicians are not warranted in regarding those periods in which changes are observable as of more importance than those that are imperceptible between the manifestations observed. While a law of observable periodicity is perhaps admissible, yet this is not equivalent to proving that observable manifestations are more important or exert more influence upon development than the periods when so much activity can not be observed.

Dr. William L. Baum believes that there are periods of stress. One of the greatest examples of the influence of these in modern times was the remarkable number of defective children born immediately after and during the siege of Paris.

Anatomic changes must not be considered alone. Those which occur at certain periods during intra-uterine life reflect in the individual the consequences of nutritional change. This is very well shown in the syphilitic child. At one time the elder Ricord claimed that the child could not be infected from a syphilitic mother if she became infected later than the third month of pregnancy. This period has now been extended to the sixth month. This was true not only of syphilis, but of congenital ichthyosis. The same changes appear in ichthyotic children when development of the teeth takes place. Dermatology furnishes many examples which, from knowledge of embryology, can be attributed to certain periods. These periods often coincide with periods of altered nutrition in the mother. Hence it is obvious that the periods of stress have some influence not only upon nutrition temporarily, but upon the future of the child. There are cases of congenital hairy individuals, showing at the period of the evolution of the hair follicle that there must have been some nutritional change at that time. Many congenital dermal growths demonstrate that at one time there must have been some localized nutritional change in the fetus itself, such as are evinced in the various types of nevi. About fifty different dermatoses of congenital origin sometimes interfere with the future of the child.

Dr. Kiernan, in closing, defined what he meant by periods of stress. He had simply grouped biologic laws and embryologic facts together. Had they been nosologic facts their validity would have been recognized. The fetus was regarded as an organism subject to certain developments like those of the child in the period of the first dentition, in the period of second dentition, in the period of puberty, and subject furthermore to maternal environment. When a child is prematurely born with certain monstrosities, Dr. Bacon recognizes that this is arrest of development. If, however, under certain conditions some of its organs are arrested while the child is viable and lives for a certain time, Dr. Bacon could not, under the dictum laid down, regard these arrests of development, provided the child was apparently well nourished. A congenitally well-nourished infant is not necessarily a perfectly-developed one. The children of phthisical, syphilitic mothers, as also of mothers with other defects, may be well nourished at birth, yet break down at the first dentition, the second, during puberty, or even later, because of congenital defects. Luetic children may be apparently well developed, yet have, as Fournier has shown, defects simply due to arrest of development.

Suturing of Large Blood-Vessels.

Dr. A. E. Halstead read a paper on this topic, reporting the case of Mrs. S., aged 43, operated on by him in the latter part of May, 1900, for advanced mammary carcinoma. At this operation, the whole mammary gland, with both pectoral muscles and their fascia and the axillary glands and fat were removed in one mass by sharp dissection. The infraclavicular glands were slightly enlarged, and were also removed. No change in the cervical glands was noted at this time. Four months later the glands along the posterior border of the sterno-cleido-mastoid began to enlarge and were removed. They were found to be carcinomatous. About the middle of October, a small nodule began to grow at the outer end of the clavicle, which was somewhat deep-seated and painful. In two weeks the pain disappeared, and the nodule appeared to diminish in size. In the latter part of November the tumor again became painful and rapidly increased in size. On December 14 she presented herself for examination, when a tumor, about the size of a walnut, could be felt deeply seated, just below the coracoid process. The patient was advised to have this tumor removed, and accordingly was sent to the Policlinic Hospital, where, on December 14, under ether anesthesia, an incision was made parallel with the old line of incision, curving downward and outward from the middle of the clavicle to the floor of the axilla. The tumor was found to have originated in the short stump of the small pectoral muscle which was left attached to the coracoid process. It had pushed up the inner fibers of the deltoid to which it had become adherent and had involved the upper part of the coraco-brachialis and the capsule of the shoulder-joint. The coraco-brachialis with the inner third of the deltoid were dissected from below upward, and with the tumor and the part of capsule, about two inches of the axillary vein were removed. Just before the dissection was completed the axillary artery was found adherent by its fascia to the tumor at a point about on a level with the insertion of the pectoralis minor muscle. By means of sharp, curved scissors, the artery was being freed from its attachment to the tumor, when the vessel was accidentally cut obliquely through about two-thirds of its circumference. The violent hemorrhage that immediately followed was controlled by placing the index finger of the left hand under the artery and pressing it up against the clavicle. The operative field was then sponged dry and the wound of the vessel inspected. At the time of the first operation, all the branches of the axillary artery, excepting the circumflex had been divided. While removing the recurrent growth, the anterior circumflex had been cut so that there was practically no chance for collateral circulation to be established. Under the circumstances the only chance of saving the arm was to suture the artery. Accordingly, while the circulation was controlled by pressure of the left index finger, four interrupted catgut sutures were passed through the two outer coats of the vessel and tied. This effectually closed the wound in the vessel so that no hemorrhage followed removal of pressure from the artery. To support these sutures, the perivascular connective tissue was sutured longitudinally with a fine catgut suture. The tumor was then dissected from the vessel and the wound closed in the ordinary way. The radial pulse was immediately restored and was as full as that of the opposite side. The patient made a good recovery from the immediate effects of the operation, and had at no time any disturbance of the circulation of the arm. She left the hospital at the end of two weeks. Two months after the operation there was still a radial pulse on the left side of a volume equal to that on the right.

Dr. Halstead then referred at considerable length to the work, experimental and otherwise, of Muscatello, Tichow, Orlow, Nitze, Bruci, Doerfler, Abbey, Zoege von Manteuffel, Murphy, Lindner, Ziegler, Kuemmel, Garrie and others. The indications for arterial suture are: 1. In all cases of injury to a vessel or vessels, where a ligature might bring about serious nutritional changes to the part supplied by the injured vessels. This is especially apt to occur when the corresponding vein is injured at the same time. In such cases an effort should be made to repair both vessels, although if the arterial circulation is established, the necessity of restoring the continuity of the vein is not so imperative. 2. In all wounds of large vessels produced by puncture, gunshot, or laceration. 3. Operation wounds of large vessels, accidental or intentional, as, when for any reason a part of the vessel must be sacrificed.

In dealing with the technique of suture of wounds of blood-vessels, the means of securing temporary hemostasis, the suture material to employ, and the manner in which the sutures are to be introduced should be considered.

Since operating on the case reported, in doing experimental suture of arteries on dogs, he has secured temporary control of the circulation by passing a loop of tape around the vessel and twisting it until the lumen of the vessel is closed, then holding the tape by means of an artery forceps applied close to the vessel. With this method, the wall of the vessel is not injured, and the ligature can be quickly removed after the suture is completed. This method also has an advantage over digital compression, in that it excludes from the field of operation the hands of an assistant that are in the way and may be a source of infection.

Dr. Kiernan referred to the possibility of embolism following the suturing of vessels, and asked whether in a case in which there was a thrombotic tendency suturing of the artery would not be contraindicated. It seemed to him that in suturing the carotid or vertebral artery in neurotic conditions there would be a slight tendency to thrombosis.

Dr. Halstead stated that theoretically it had been claimed that a mural thrombus forms, but actual experiments have shown that it is not so, even with through-and-through suture, and the formation of a thrombus does not occur except under very exceptional circumstances.

Therapeutics.

Treatment of Dysentery.

Dr. W. J. Buchanan, Superintendent Central Prison, Bhagalpur, Bengal, as noted in *Brit. Med. Jour.*, has employed the saline treatment in dysentery in 855 cases, with only 9 deaths. The formula he used is as follows:

℞.	Sodii sulphatis	ʒi	4	
	Aquæ fœniculi q. s. ad	℥i	32	

M. Sig.: One such dose to be given six or eight times a day, as the case may require.

The saline should be continued until every trace of blood and mucus has disappeared. This treatment will relieve the tenesmus. Dr. Buchanan advises the use of salines in acute cases only. He does not consider it a safe method for chronic or collapsing cases with ulceration of the colon. In those patients he uses only one or two doses and then continues to treat the case with soda and bismuth or with salol, with an occasional dose of castor-oil.

H. B. T. Symons, of Sorrento, Italy, in the same journal advises the following local treatment in the amebic variety of the disease:

℞.	*Acidi tannici*	ʒss	2	
	Aquæ destil.	Oi	512	

M. *Sig.*: Use as a douche every four hours. The water should first be *warmed*.

He states that he has found it of great benefit in rapidly diminishing the number of evacuations and speedily mitigating the distressing tenesmus. Hot hip baths are of value in relieving the abdominal discomfort and local smarting. This treatment with small doses of opium by the mouth, rest in bed, and a strictly milk diet comprises an outline of treatment which generally affords prompt and permanent relief.

It is recommended by Dr. Potilov in *Les Nouveaux Rem.*, that ichthyol be used in treatment of dysentery. He uses the following formula:

℞.	Ichthyoli	ʒvii	28	
	Aq. destil	Oii	1024	

M. Sig.: Use an injection every other day. An effort must be made to get the enema as high in the bowel as possible, when the pains will subside quickly. The enema should be preceded by a dose of oleum ricini.

Treatment of Measles.

The following combination is of service by aiding the elimination of the toxic substances and reducing temperature:

℞.	Potassii citratis	ʒiii	12	
	Tinct. aconiti	m. vi		36
	Spts. etheris nitrosi	ʒiss	6	
	Syr. tolutani	℥i	32	
	Aquæ q. s. ad	℥iii	96	

M. Sig.: One teaspoonful every three hours for a child of 6 years or older.

For the bronchitis the following:

℞.	Codeinæ sulphatis	gr. iss		09
	Syr. ipecacuanhæ	m. xxx	2	
	Syr. pruni virginianæ	℥ss	16	
	Aq. aurantii q. s. ad	℥ii	64	

M. Sig.: One teaspoonful every two hours for a child 4 years of age or older.

A Dressing for Varicose Ulcers.

℞.	Glycerini			
	Zinci oxidi			
	Gelatin. (albus), āā	℥i	32	
	Aquæ destil.	℥iii	96	

M. Sig.: Heat in a water bath. Apply several coats with a brush to protect the ulcers.

A DUSTING POWDER FOR ULCERS.

℞.	Iodoformi			
	Salol, āā	℥ss	16	
	Bismuthi subnitratis	ʒvi	24	
	Pulv. carbo. ligni (charcoal)			
	Pulv. cinchonæ			
	Pulv. benzoini, āā	℥i	32	

M. Sig.: To be used as a dusting powder.

Intensive Guaiacolization in Phthisis.

This is the title of a communication presented by A. Weill and Berger, at the International Medical Congress. They aim to administer guaiacol by every possible route. 1. A small rectal injection of a quarter of a glass of milk to which 40 or 50 drops of guaiacolized oil have been added. 2. Application of the same substance externally to the thorax every day, restricting the application to an extent of surface 8 by 10 cm. square, and passing to other portions of the thorax. 3. Guaiacol pills every three or four hours during the day only, made according to the following formula:

℞.	Guaiacol (synthetic)	gr. 1/6		01
	Crys. terpin. hydratis	gr. 1/3		02
	Acidi benzoici	gr. ss		03
	Ext. belladonnæ			
	Ext. hyoscyami, āā	gr. 1/600		0001

M. ft. pil. No. i. Sig.: One such every three or four hours.

This intense guaiacolization should be kept up for several months, suspending it for eight or ten days every three weeks.

A New Local Treatment for Erysipelas.

G. Lenox Curtis, in an article in *Med. Record,* states that he has derived very gratifying results from the external treatment of the disease by first cleansing the parts affected very thoroughly. A sufficient quantity of sodium sulphate is mixed with cold distilled water to make it of the consistency of a thick paste, the diseased part is covered with a single layer of the gauze or coarse cheese-cloth, and over this is spread a thick layer of sodium sulphate, care being taken that it extends considerably beyond the margin of the disease. Ice water must then be applied to the poultice to produce cold and moisture as well as to reduce the inflammation. He states that within six or eight hours, all the germs will have been destroyed.

TREATMENT OF ERYSIPELAS BY UNGUENTUM CREDÉ.

Max Stalber, as noted in *Med. Summary,* has used this ointment in erysipelas with success. The treatent consists in rubbing the ointment in with gentle friction over the affected and inflamed area. The rubbing should be continued for 20 or 30 minutes until the ointment is completely absorbed. Forty or fifty grains of the ointment can be used with each inunction for adults, and proportionate doses for children. The ointment contains about 15 per cent. of soluble metallic silver.

Spermatorrhea.

℞.	Cornutinæ citratis	gr. ii		12
	Ergotin	ʒii	8	
	Ext. nucis vom	gr. v		30

M. Ft. capsule No. xl. Sig.: One capsule twice daily.

When spinal hyperesthesia is present:

℞.	*Potassii bromidi*	ʒiv	16	
	Tinct. hyoscyami	ʒiv	16	
	Tinct. nucis vom	ʒss	2	
	Syrupi zingiberis	*℥ii*	*64*	
	Aquæ camphoræ q. s. ad	℥iv	128	

M. Sig.: One teaspoonful three times a day.—*Merck's Archives.*

Comparative Effects of Urotropin upon the Urine.

Dr. F. Suter, in *British Med. Journal,* has experimented with the following *preparations* in order to obtain some knowledge of their relative antiseptic properties upon the urinary tract: Benzoic acid 10 grains, boric acid 15 grains, salol 15 grains and 40 grains, and urotropin 15 grains. The preparation was administered at night and an examination was made of the first urine passed in the morning. The decomposition was retarded by several days only by large doses of urotropin and salol. It produces best effects in ammoniacal decomposition and is of value in disease of the prostate gland with consequent retention of the urine. It can be given in daily doses of 15 to 25 grains. It is not of great value in gonorrheal cystitis.

Treatment of Pneumonia.

Porter, in *Phila. Med. Jour.*, states that in his clinical work venesection is ordered as soon as the diagnosis is established. Usually from 8 to 12 ounces of blood will be sufficient. Immediately after this procedure, *subcutaneous* injections of salt solution is administered. The solution is prepared according to Jenning's formula as follows:

℞.	Sodii chloridi	gr. xxx	2	
	Potassii chloratis			
	Sodii sulphatis, āā	ʒi	4	
	Sodii phosphatis	gr. xl	2	66
	Sodii carbonatis	ʒi	4	
	Aq. destil. q. s. ad	℥vi	192	

M. Sig.: Use one part of this solution to sixty of distilled water subcutaneously.

To Abort Pneumonia in Children.

Illoway recommends the following:

℞.	Tinct. veratri viridis	gtt. vi		36
	Tinct. aconiti rad	gtt. ii		12
	Aq. destil.			
	Syr. tolutani, āā	℥ss	16	

M. Sig.: One teaspoonful every half-hour for five doses, then a teaspoonful every hour.

To Relieve the Pain in Carious Teeth.

R.	Codeinæ sulph.	gr. ½		03
	Ol. caryophylli	ʒss	2	
	Chloroformi	ʒii	8	

M. Sig.: Soak a small pledget of cotton with the solution and place in the decayed cavity.

Gonorrhea in Women.

Dr. Marshall, in *Internat. Med. Mag.*, states that he has derived most satisfactory results in treating gonorrhea in women, from the use of tampons and pessaries. He advises against the employment of douches in these cases as being not only unsatisfactory but harmful, as douches may leave the cervix and upper vagina untouched. He prefers the pessaries made in one-inch test-tubes, of gelatin-glycerin as a basis. When ready for use the tube can be heated in hot water, when the pessary will slide out. This gradually melts when placed in the vagina. The active ingredient may be one of the following: Iodin ½ per cent.; ichthyol 2 to 5 per cent.; hydrargyri bichloridum 100 to 500; argonin 5 per cent.; lysol 2 per cent.; *formalin* 2 per cent. The best results have been obtained by him with iodin and ichthyol.

We should advise care in the use of formalin on account of the great tendency to irritate.

Medicolegal.

Eighty-five Hundred Dollars for Injury to Foot.—The Supreme Court of *Washington holds, in the personal injury* case of Uren vs. the Golden Tunnel Mining Company, that where a young man working in a mine had his foot mashed to such an extent that he had to have a portion of the bones of the foot removed, and, according to the testimony, was permanently maimed, it can not be said that a verdict in his favor for $8500 damages was excessive.

North Carolina Provisions as to Care of Insane.—The Supreme Court of North Carolina, in the case of the State Hospital at Raleigh vs. Fountain, interprets the law of that state as showing that it was the paramount purpose of the legislature to care for the indigent insane, with the proviso that the board of directors of an insane asylum may, if there be sufficient room, admit other than indigent insane persons upon payment of proper compensation, and allowing the directors to furnish private apartments, extras, or private nurses, if prac- ticable, for the use and comfort of those patients who are able to pay for it. Nor does it consider the law as thus written in conflict with the state constitution. The constitutional declara- tion, as amended in 1879, that "the general assembly may pro- vide that the indigent deaf-mutes, blind and insane of the state shall be cared for at the charge of the state," *it holds em* powers the general assembly, in its wisdom and discretion, to provide for the indigent at the charge of the state or otherwise, and, being silent as to the expense to be borne by those of insufficient property, it must be concluded that it was not intended that any requirement should be put upon the legislative department as to them. An indigent insane person it defines as an insane person whose property is insufficient to support himself and his family immediately dependent upon him.

Calling Physician as Witness a Waiver of Privilege.—The Court of Appeals of New York holds, in the case of Holcomb vs. Harris, that where, in an action against an executor, the latter called his testator's physician as a witness, and asked him a question calling for a disclosure of professional information, it was an express waiver of the provisions of section 834 of the Code of Civil Procedure, which forbids a physician to disclose necessary information acquired in attending a physician professionally, such as a legal representative is allowed to make by section 836 of the Code. It says that it is difficult to imagine a clearer act of waiver than for the legal representative of a deceased patient to call his former physician to the stand, and ask him to disclose professional information falling within the provisions of section 834 of the Code. Nor does it think that either court or counsel was misled in this situation, in this case, notwithstanding that the executor did not state in so many words that he desired or intended to exercise his right under section 836, as the other side contended that it was his duty to indicate.

Post-Graduate School Not Liable for Malpractice.—In the case of Collins vs. the New York Post-Graduate Medical School and Hospital, it appeared that the plaintiff, being ruptured on the left side, applied for admission to the defendant's hospital for the purpose of undergoing an operation, bringing with him a card from his own physician stating that fact, and giving the true location of the hernia. The house physician examined him and confirmed his doctor's diagnosis. The second day he was placed under the influence of an anesthetic, and the operation performed in the presence of the students, after a preliminary lecture to the class by one of the attending physicians. The operation was performed on the right side, which was in a perfectly healthy and normal condition, and the plaintiff was obliged to and did afterward submit to another operation at another hospital for the removal of the hernia diagnosed by his doctor. The surgeon who performed the operation on the wrong side had been subjected to a competitive examination before being accepted by the defendant's board of examiners, and, before that operation, was regarded by the defendant as skillful and competent. The defendant by its answer denied the negligence alleged, and asserted, by way of a separate defense, that its hospital was a charitable institution; that the medical and surgical attendance and ministrations furnished the plaintiff were furnished free; and that they were so accepted by him. True, he paid $8 weekly, during the four weeks he was in the hospital, but the testimony showed that was a charge made those able to pay it for room, board, nursing, medicines, dressings, and the services of the house staff—everything except a medical fee, nothing ever being charged for medical services, though gifts to the hospital might be made in lieu of payment of such fees by emergency patients. Under these circumstances, the second appellate division of the Supreme Court of New York holds that the complaint was properly dismissed. It says that, however opinions may differ on the question of the policy of exempting charitable institutions from the ordinary rule of respondeat superior, or "let the principal answer," the law is too well settled in that state to permit a recovery against the institution for the wrong committed by the surgeon who operated upon the plaintiff gratuitously. While the precise question does not yet appear to have been passed on by the court of appeals, it has been decided adversely to the right of action a number of times at the circuit and the general terms. It says, too, that many of the cases cited from other jurisdictions in harmony with this view are authority for the proposition that the fact that the institution receives pay patients does not change its status as a charitable organization. And it holds that the fact that the defendant charged tuition fees, and that the operations were a necessary incident to successful teaching, and that in that sense the defendant might be said to have been paid for the operation, did not change the relation of the parties to each other. In the performance of the operation, so far as the plaintiff was concerned, the defendant was engaged solely in charitable work; and its corporation must therefore be regarded as a charitable institution, as to him, in that respect. When it had furnished a surgeon selected with proper care, and with no reason to believe him to be negligent or incompetent, it had fulfilled its duty, and, as it did not control him in the performance of the operation, it must be held free from liability for his want of care.

Practice in Another State—Good and Bad Diplomas.—When the case of the State of Kansas vs. Wilson was first before it, the Supreme Court of Kansas held that a person of good moral character, who had practiced medicine continuously for ten years or more before the taking effect of "An act to protect the people from empiricism, and to elevate the standing of the medical profession" (chapter 68 of the Laws of 1870; sections 2302, 2303, General Statutes of 1899), is deemed to be qualified and to have complied with the provisions; but continuous practice for ten years in violation of law, after the act was passed, confers no right or authority on the practitioner. And now it holds, on the second appearance of that case before it, that it is no defense to a prosecution under the act to prove that the person charged with unlawfully practicing medicine in violation of its provisions has been, since the passage of such act, continuously engaged in the practice of medicine for a period of ten years or more in another state, as, for example, in Nebraska. The contention on behalf of the defendant was that, having practiced without the state of Kansas during a period of ten years, he could not be said to be one who had been engaged "for ten years in violation of law." But the supreme court answers that, in the absence of proof to the contrary, it will be presumed that the laws of the other state referred to (Nebraska) are the same as those of Kansas. Besides, it says, it is known of all men that throughout the civilized world schools, colleges, dispensaries, hospitals, and institutions for clinical instruction are maintained at public and private expense for the education of those men and women to whom are committed the responsible duty of ministering to the health and endeavoring to prolong the life of human beings. All, or nearly all, of these institutions issue certificates or diplomas reciting the term and course of study which has been pursued by the student therein. And those colleges whose curriculum includes a complete course of those studies which are regarded as requisite for a physician and surgeon to pursue do uniformly issue to one who has completed such course, and exhibited proficiency therein, a diploma reciting such facts, and evidencing that by reason thereof the graduate has been made a doctor of medicine. Wherefore, the court makes a point of the fact that in this case the defendant did not claim to have attended any of these schools of special learning, nor claim that he had devoted any time to the study of any of the branches of this learned profession, nor avow that in Kansas or elsewhere he ever submitted to an examination before a board of competent members of the profession which he sought to follow, and the court holds that the purpose of the statute would not be carried out, and the evident intent of the legislature would not be given effect, by holding it sufficient that he had practiced in another state for more than ten years. In such a case as this, it devolves upon the defendant, the court holds, to produce evidence tending to show that he has attended two full courses of instruction and graduated in some medical college in this or some foreign country, or a certificate of qualifications from some state or county medical society, as such evidence is not accessible to the state, and is peculiarly within the defendant's knowledge and under his control. To this, the court adds that if the defendant should show, on the new trial, which it orders because the judge usurped the functions of the jury in practically directing it to return a verdict of guilty, that he had attended two full courses of instruction, and graduated in some medical college of this or some foreign country, then, in the absence of some evidence raising a question about it, the presumption would be that such college was respectable. To avoid misunderstanding, however, with reference to the facts of this particular case, it says that it thinks the trial court would have been justified, for reasons appearing on the face of the documents themselves, in excluding from the jury the paper, which counsel for the defense called a "diploma," issued by the so-called Independent Medical College of Chicago, and the other paper purporting to have been issued by a physio-medical society in Illinois (which latter was excluded), because neither of these papers proved, nor tended to prove, that the defendant had attended any course of instruction in either institution, or had graduated at either, and because neither of them can be regarded as a diploma, nor as such a certificate as is contemplated by the Kansas statute.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, April 20.

1 *The Early Diagnosis of Ectopic Gestation. Andrew F. Currier.
2 *The Use of Hot-water Vaginal Injections. James H. Burtenshaw.
3 A Case of Cystinuria Ending in Recovery. John Reid.
4 *Acute Spinal Ataxia (Non-tabetic), and its Relation to Other Forms of Acute Ataxia. Charles L. Dana.
5 Pathology of Intrauterine Death. (Concluded.) Neil MacPhatter.
6 Grippe, Pneumonia, and Insanity. Emile Aronson.
7 Notes on the Treatment of Diphtheria, Based on the Methods of the New York City Hospital. William L. Somerset.

Philadelphia Medical Journal, April 20.

8 *The Localization of Brain Tumors Especially with Reference to the Parietal and Prefrontal Regions. Charles K. Mills.
9 *Non-Surgical Treatment of Fibroid Tumors of the Uterus. Augustin H. Goelet.
10 Akromegaly, with Report of Two cases. W. G. Shallcross.
11 *A Clinical Note on Infantile Scorbutus. Wm. M. Mastin.
12 Susceptibility to Disease and Physical Development in College Women. Arthur MacDonald.
13 *Operative Treatment for Prostatic Hypertrophy. Ramon Guiteras.

American Medicine (Philadelphia), April 20.

14 *How to Deal with the Vermiform Appendix. Some Forms of Complicated Appendicitis. Howard A. Kelly.
15 The Good and Bad Effects Obtainable from Digitalis Used as a Therapeutic Agent. William Henry Porter.
16 Congenital Deformity of Wrist; Osteotomy of Radius. De-Forest Willard.
17 *The Logic of Hydrochloric Acid Therapy, Restoration of Lost Gastric HCl secretion by medical and Surgical Methods. John C. Hemmeter.
18 *Metatarsal Fracture. Carl Beck.
19 *Some Remarks on Inguinal Colostomy. William J. Mayo.
20 The Prevalence of Streptococci in Cow's Milk. D. H. Bergey.
21 Case of Congenital Form of Hernia of the Appendix Vermiformis in Conjunction with Cyst of the Canal. G. Childs MacDonald.

Boston Medical and Surgical Journal, April 18.

22 *The Opinion Evidence of Medical Experts. John D. McLaughlin.
23 The Umillian Murder. Herbert B. Perry.
24 Upon What Sort of Information Shall a Medical Examiner Hold a View? H. M. Culls.
25 *Leucocytosis and Typhoidal Perforation. Colin K. Russell.
26 Contusion of the Abdomen; No External Wound; Rupture of the Descending Colon; Fecal Abscess; Drainage; Suture of Ruptured Gut; Recovery. Charles L. Scudder.

Medical Record (N. Y.), April 20.

27 *The Toxemia of Pregnancy: Its Diagnosis and Treatment. S. Marx.
28 Faith Cures and the Law. John B. Huber.
29 Report of Three Cases of Malignant Endocarditis: One Following Measles, Another Typhoid Fever in a Child and Simulating Splenic-Lymphatic Leukemia, and another Terminating in Recovery. Albert E. Roussel.
30 *Strangulated Hernia in Infants; Description of a Hitherto Unrecognized Cause and Seat of Strangulation. Alexis V. Moschcowitz.

Medical News (N. Y.), April 20.

31 An Historical Sketch of the Department of Medicine and Surgery of the University of Michigan.
32 *Some Errors in the Examination of Urine. Louis Heitzmann.
33 Acute Traumatic Malignancy. (Concluded.) William B. Coley.
34 Epistaxis. Charles N. Cox.

Cincinnati Lancet-Clinic, April 20.

35 Some Truths in Medicine. Brose S. Horne.
36 Thoracoplasty. Hal C. Wyman.
37 Old-Time Practice. Geo. J. Monroe.

St. Louis Medical Review, April 20.

38 *Indications for Operation in Floating Kidney. G. Frank Lydston.
39 The Treatment of Diphtheria. W. L. Downing.

Post-Graduate (N. Y.), April.

40 Wounds and Injuries of the Eye. Edgar S. Thomson.
41 A Foreign Body in the Bronchus Contrasted with a Case of Incipient Tuberculosis. William Henry Porter.
42 Tecto-Colonic Enteroliths and Concretions. Samuel G. Gant.
43 Indications for Renewal of Plaster of Paris Jackets in Tubercular Spondylitis. Dexter D. Ashley.
44 Report of Clinics (Convergent Squint, Diseases of Children). St. John Roosa, A. E. Davis, and Dr. Caille.
45 Case of Cerebellar Abscess, the Result of Chronic Suppuration of the Middle Ear. D. B. St. John Roosa.
46 Notes from the Clinics. (Hernia). W. B. De Garmo.

American Journal of Medical Sciences (Philadelphia), April.

47 *Primary Splenomegaly. With a Report of Three Cases Occurring in One Family. N. E. Brill.
48 *Enteroptosis. James R. Arneill.
49 *Estimation of the Urinary Sulphates and of the Fecal Fat in the Diagnosis of Pancreatic Disease. David L. Edsall.
50 *Premature Infants. Vanderpoel Adriance.
51 Contribution to Study of Fatty Infiltration of Heart Secondary to "Subpericardial Over-Fatness." J. M. Anders.
52 *Multiple Neuritis and Hematorporphydrinuria Following the Prolonged Ingestion of Trional. Stuart Hart.

Canadian Practitioner and Review (Toronto), April.

53 A Case of Tic. R. D. Rudolf.
54 Tendon Transplanting in Paralytic Deformities. Clarence L. Starr.
55 A Comparison of Antiseptics. E. Ralph Hooper.
56 Clinical Experiences with Chloretone and Mercurol. C. E. Darche.

Physician and Surgeon (Detroit and Ann Arbor), March.

57 *Some Reflex Disturbances from Disturbed Pelvic Mechanism of Genital Dislocation. Byron Robinson.
58 *Diabetes Mellitus: A Study in Therapeutics. George Dock.
59 A Basis for the Study of Insanity. Hiram A. Wright.

A SYMPOSIUM ON ENDOCARDITIS.

60 Etiology and Pathology. William M. Donald
61 Symptomatology. William R. Chittick.
62 Diagnosis and Prognosis. George W. Wagner.
63 The Treatment. F. Lydston Newman.
64 *A Medicolegal Study of Euthanasia. Noah E. Aronstam and Louis J. Rosenberg.
65 Better Compensation for Local Health Officers. Henry B. Baker.

Northwestern Lancet (Minneapolis), April 15.

66 *Pancreatic Disease. H. L. Staples.
67 If Operative Technique be Perfect, Can Sepsis Occur? George C. Barton.
68 *Blood Examination in Surgical Diagnosis. A. Elton Williams.
69 Operations for Relief of Epilepsy. F. A. Dunsmoor.
70 Report of a Case of Erysipelas Treated with Antistreptococcic Serum. F. M. Archibald.

Cleveland Journal of Medicine, March.

71 Congenital Dislocation of Hip-Joint with Especial Reference to Lorenz's Bloodless Reduction. Walter G. Stern.
72 My Experience with Some of the Surgical Diseases of the Thyroid Gland. Aug. F. House.
73 Aortic Aneurysm. F. C. Herrick.
74 Some Proofs that Vaccination Prevents and Mitigates Smallpox. Charles L. Webster.
75 Syphilitic Disease of Facial Bone. C. A. Hamann.
76 Persisting Fetal Type of the Appendix. N. S. Scott.

Brooklyn Medical Journal, April.

77 *Pediatric Malaria. William A. Northridge.
78 *The Treatment of Club-Foot. Arthur H. Bogart.
79 *The Present Status of the Thyroid Extract in Therapeutics. Hiram Elliott.

Medical Summary (Philadelphia), April.

80 Meckel's Diverticulum as a Source of Intestinal Obstruction. J. F. Purviance.
81 Receding Diseases. Frank R. Brunner.
82 Comments on Gelsemium. Ralph St. J. Perry.
83 Some More Don'ts. D. H. Keller.
84 Camp and Hospital Life Under Red-tape Rule. C. W. Canan.
85 Is Malarial Hematuria Produced by the Administration of Quinin? B. P. Wilson.
86 Treatment of a Case of Tuberculosis of Left Lung in First Stage. S. D. Sour.
87 Good Health. Geo. J. Monroe.

Cleveland Medical Gazette, April.

88 *Nephritis and the Nervous System. Henry S. Upson.
89 Etiology of Chronic Non-Exudative Nephritis. S. L. Bernstein.
90 Prognosis in Chronic Non-Exudative Nephritis. Norman C. Yarian.
91 Treatment of Chronic Non-Exudative Nephritis. J. B. McGee.
92 Spontaneous Fracture of the Humerus Due to Sarcoma, with History of a Case and Presentation of Specimen. H. W. Quirk.

St. Paul Medical Journal, April.

93 *The Differential Diagnosis of Acute Febrile Diseases which may Simulate Typhoid Fever. Henry Jackson.
94 *Death from Drowning. Howard Lankester.
95 *A Report of 245 Cases of Anesthesia by Nitrous Oxid Gas and Ether. Alice Magaw.
96 *General Massage. Haldor Sneve.
97 State Sanatoria for Consumptives. H. Longstreet Taylor.
98 Erosions and Ulcerations of the Triangular Cartilage of the Septum. Jacob E. Schadle.
99 Suprapubic Cystotomy, Tenotomy of Tendo Achillis, Recovery. Oscar A. Fliesburg.

Peoria Medical Journal, April.

100 Nasal Hemorrhage in Septicemia. William Niergarth.
101 A Case of Aortic Aneurysm. B. M. Stephenson.
102 Considerations Relative to Typhoid Fever. H. H. Fletcher

Canadian Journal of Medicine and Surgery (Toronto), April.

103 Some Successful Cases of Operation at the Samaritan Hospital, Montreal. (Ventrofixation, etc.) A. Lapthorn Smith.
104 *Experiments in Climatology—The Tropical Winter. Ezra H. Stafford.

Occidental Medical Times (San Francisco), April.

105 *The Report of the Government Commission on the Existence of Plague in San Francisco.
106 Address, San Joaquin Valley Medical Society. W. J. Maupin.
107 *The Etiology of the Skeletal Deformities of Rachitis. Harry M. Sherman.
108 Eye-Strain. L. E. Felton.
109 The Tuberculin Test. F. E. Twining.

American Medical Compend (Toledo, Ohio), April.

110 Hemorrhage After Removal of the Ovaries and Tubes; Malignant Disease of the Uterus; Pyosalpinx and Hydrosalpinx with Fibroid Uterus. E. E. Montgomery.
111 Gynecology—Its Range. Byron Robinson.
112 Sudden Profuse Hemorrhage Before the Birth of the Child and the Manner of Treating it, with Report of Three Cases. H. E. Noble.
113 The Treatment of Cystitis with Aminoform. W. W. Grube.

Merck's Archives (N. Y.), April.

114 Therapeutics of Ipecac. W. H. Blake.
115 *Atropin in Algid, Pernicious Malarial Fever (Congestive Chill). I. L. Van Zandt.
116 *Scalds and Dry Burns. A. D. Blinkerd.
117 An Essay on Opium and its Alkaloid Morphin, and Their True Value in Modern Therapeutics. Adolfo Luria.

Illinois Medical Journal (Springfield), March.

118 *Chronic Inflammation of the Tear Passages. Willis O. Nance.
119 *Rheumatic Diseases of the Eye. H. W. Woodruff.
120 Sympathetic Ophthalmia, with Reports of Cases. A. L. Adams.
121 Pneumonia. W. S. Caldwell.
122 *Relation of the Physician to the Public Schools. K. Miller.
123 *Mental Overwork and Lack of Interest in Physical Development and Hygienic Care of School Children a Menace to the Future of the Race. E. A. Edlen.
124 Diet, or Some Phases of it that Our Forefathers Did Not Have to Meet. W. J. Eddy.
125 Slight Ailments. L. L. Leeds.

Medical Herald (St. Joseph, Mo.), April.

126 *Intubation of the Larynx as an Emergency Operation. F. E. Sampson.
127 Treatment of Cancer by Escharotics. Chas. Ott.
128 Malaria and Mosquitoes on the West Coast of Africa. Hans Ziemann.
129 Hydrophobia—Report of a Case. A. Herring.

Alabama Medical Journal (Birmingham), April.

130 The Use of Forceps in Childbirth. Hugh Boyd.
131 Use and Value of Proprietary Medicines. S. M. C. Howell.
132 *Some Unusual Reflexes Resulting from Lacerations of the Cervix. W. G. Harrison.
133 *The Duration of Life. R. C. Bankston
134 Acute Uremia Successfully Treated with Intravenous Saline Solution. J. M. Mason.
135 Vaccination in Alabama—What Does it Prove? W. H. Sanders.
136 Hypertrophic Elongation of the Cervix Uteri, with Complete Eversion of the Vagina from Fibroid Tumor of the Cervix. Restoration by Supravaginal Amputation of the Cervix and Inversion of the Vagina. George Henry Noble.

Denver Medical Times, April.

137 Neglect of a Great Opportunity for the Advancement of Medicine and Surgery in Denver. Henry Sewall.
138 Thoughts Suggested from an Attendance at the Pan-American Medical Congress. T. A. Stoddard.
139 Bad Effects (?) Following Vaccination. E. P. Hershey.
140 A Visit to Padua and Bassini. R. W. Corwin.
141 Amblyopia from the Use of Wood Alcohol. Edward Jackson.

Memphis Medical Monthly, April.

142 The Metric System in Prescription Writing. Wm. Krauss.
143 *Follicular and Periurethral Abscess in the Male. William F. Bernart.
144 Urban Sanitation with Special Reference to the City of Memphis. Edwin Williams.
145 Suburban and Village Sanitation. B. F. Turner.

146 Adenoid Vegetations of the Nasopharynx and their Removal. George S. McReynolds.
147 *Shall We Use Quinin in So-called Malarial Fevers? J. M. Williams.
148 A Case of Endocarditis, Terminating in Embolism of the Cerebral, Pulmonary and External Iliac Artery. Robt. W. Tate.

AMERICAN.

1. **Ectopic Gestation.**—The symptoms which determine the diagnosis of tubal disease may be divided into ordinary and extraordinary. The ordinary ones are those of usual pregnancy at different periods. The absence of one of more of these, however, may mislead the physician. The point which Currier wishes to make is that when gestation occurs normally or abnormally it causes certain changes in the tissues, and a general condition characteristic of the pregnant state. These should be carefully sought. There are certain conditions which seem to predispose to tubal gestation and their etiologic importance should be considered when arriving at a diagnosis, such as retroflexion, precedent sterility, diseases or dislocation of tubes, bicornate uterus, previous tubal gestation, etc. These are noticed in detail. The most important of the extraordinary signs is hemorrhage. It is seldom externally manifest. It is most likely to occur and occurs most early if the seat of the ovum is in the fimbriated extremity of the tube, and is less likely to occur when it is near the middle. In the first case it rarely progresses to the end of the first month without rupture, and hemorrhage is frequently fatal. The comparative absence of tumor may mislead the physician, so that he may temporize until it is too late. In any other portion of the tube rupture is usually observed between the sixth and twelfth week and the signs of such tumor would usually exclude the fimbriated or terminal variety. It does not necessarily imply the complete rupture of the fetal sac with escape of its contents, but may be simply rupture of the blood-vessels and distended tissue. The signs of hemorrhage from tubal rupture are not easily mistaken, the weakness of collapse, flickering pulse, the pinched face, and the shallow breathing can have but one significance. Next to hemorrhage the most important extraordinary sign is pain, which is usually paroxysmal, sharp and darting, often associated with hemorrhage, though not always. The third sign is tumor, which is usually best determined by examination per rectum, the thighs being flexed upon the abdomen, and anesthesia is necessary in most cases. The passing of decidua by the vagina, uterine hemorrhage, etc., are of minor importance. In many cases the surgeon is not called until it is too late, and Currier doubts whether operation is justifiable, as a rule, in extreme cases, except as it is understood to be only a last resort. The diagnosis of tubal gestation is not always conclusive even when the abdomen is opened, tumor of the tube discovered and blood found. The case is not one of tubal gestation unless the fetus is found within or without the tube or a microscopic examination of the mucosa reveals the presence of decidual cells.

2.—See abstract in The Journal, xxxv, p. 1572.

4. **Acute Spinal Ataxia (Non-Tabetic).**—The summary as given by Dana, of his article, is as follows: Acute ataxia occurs occasionally in tabes dorsalis, but is associated usually with characteristic symptoms. Acute non-tabetic spinal ataxia occurs as a manifestation of spinal syphilis or senile arterial changes, and shows itself by a sudden onset of temporary motor weakness and bladder troubles, great ataxia, and minor sensory disorders. It may affect only one extremity, but usually affects the lower limbs. The tendency is to nearly complete recovery. Acute bulbar or bulbocerebellar ataxia occurs as a sequel of some acute infection, and is usually the beginning of a form of multiple sclerosis. Acute neuritic ataxia occurs as the results of multiple neuritis of the sensory type. It is seen usually in the non-alcoholic forms of neuritis, especially those due to metallic poisons, like arsenic, or to diphtheria.

8. **Brain Tumors.**—From a number of cases here reported Mills deduces the following: The diagnosis of the existence of a brain tumor can sometimes be made even in the absence of most of the general symptoms, such as optic neuritis, headache, vertigo, and vomiting, chiefly by the close study of localizing and invasion symptoms. Emotional states, even hysterical stigma, are sometimes present in cases of brain tumor, and must not be given too much weight in differential diagnosis. Tumors of the posteroparietal region, and especially of the superior parietal lobule (parietal of Wilder), give as their most important localizing symptoms disorders of cutaneous and muscular sensibility, and especially astereognosis; other symptoms often present in such cases are the result of compression or invasion of adjoining regions. Tumors and other lesions implicating the angular gyre, and the regions adjoining (the subparietal, first temporal and medioccipital convolutions, give as their main localizing symptoms word deafness and word blindness, with the usually accompanying speech disturbances, lateral homonymous hemianopsias and disorders of cutaneous and muscular sensibility, including astereognosis. Although it is possible that these disorders of sensibility in the case cited may have been dependent upon invasion of the superior parietal lobule. Just as the centers for hearing, vision and speech are more highly differentiated in the left hemisphere, so it is probable that the stereognostic sense is more highly evolved in this hemisphere. A tumor strictly confined to the motor regions does not give objective sensory phenomena of a persisting character; the localizing symptoms of a growth so situated are motor, chiefly paralysis and monospasm, with also exaggerated deep and superficial reflexes. In tumors of the motor subcortex tonic spasticity is usually a marked symptom. Paresis or paralysis, and exaggerated reflexes, with monospasm or unilateral convulsions, may also be present. Tumors of the prefrontal region, by which is meant the region entirely cephalad of the motor zone, chiefly give psychic symptoms of an especial character; when the tumor is situated on the left side, motor agraphia (or orthographia) and motor aphasia are usually present because of the compression or invasion of the posterior portion of the second frontal and of the third frontal convolutions; paralysis and other motor symptoms are often present late because of encroachments upon the motor region.

9. **Uterine Fibroids.**—The class of tumors where nonsurgical treatment may be supposed to suffice are fibroids and myomatous growths of the interstitial variety, which have not obtained sufficient size to cause the uterus to rise in the abdomen above the umbilicus. Goelet believes in active measures in the arrest of these growths, even when they give no marked symptoms though non-surgical treatment may be a necessary alternative when operation is refused. He thinks that electricity in its various forms may have a certain palliative effect, and some observations have led him to believe that the moderate-sized interstitial fibroids may disappear under the influence of electricity aided by such remedies as iodin, ergot, etc. In this latter respect he has changed his views formerly expressed.

11. **Infantile Scurvy.**—Several cases of infantile scurvy illustrating the troubles of diagnosis, etc., are reported by Mastin. They show that the errors in diagnosis are not confined entirely to rheumatic affections, but may involve the incorrect diagnosis of surgical disorders, tubercular bone lesions, etc., spinal diseases and even hereditary syphilis. They also show that scurvy may arise during the use of several of the most popular artificial or prepared foods, and in addition that it occurs in the use of sterilized milk.

13. **Prostatic Hypertrophy.**—Guiteras believes the Bottini operation the one of choice where there is damage to the kidneys, while prostatectomy may be performed with healthy kidneys, and if the prostate is of a large size, as felt per rectum. He describes the technique of the Bottini operation, and also a method of prostatectomy by perineal enucleation, which he thinks is of great value. The bladder is first washed out with boric acid solution, through a catheter allowed to remain *in situ* and plugged when the bladder has been well distended and pushed up to avoid perineal folds. The abdominal wall having been cut through above the symphysis, the fingers of the left hand are thrust into the prevesical space where the prostate can be felt between them. The plug is now removed from the catheter. The fluid drawn off, the bladder collapses, after which the catheter is withdrawn. A staff is now introduced through

the urethra, a perineal urethrotomy performed, the membranous urethra being cut through the apex of the prostate at which point the prostatic capsule is incised. The forefinger of the right hand is inserted between the capsule and the gland and enucleation commenced, counter-pressure being brought to bear by the index and middle fingers of the left hand in Retzius's space. Having thus enucleated the prostate, control of the gland by the fingers is almost as complete as if it were in the bladder. After the lobes have been enucleated through the perineal opening, a large perineal tube should be pressed up into the bladder, and drainage kept up for three weeks or more. This avoids a suprapubic opening, which is less simple and more dangerous. The after-treatment consists in an enema of a pint of hot saline solution at 120 F., to be retained, administration of 1/30 gr. of strychnia, and the application of hot bottles to the feet; all this for shock. After the patient comes out from under the effects of ether, a little hot water, soup or bouillon should be given, and water pushed *ad libitum.* Strychnin should be given every four hours hypodermically, and it is well to repeat a hot saline enema every four hours with bouillon or water by the mouth. It is well, before and after the operation, to give a urinary antiseptic, and a diet of milk up to two or three quarts a day. The bowels should be moved by some saline water on the second day.

14. **Appendicitis.**—Kelly recommends the cutting off of the appendix at its base in cases where it is diseased and densely adherent at its tip. The distal freed portion is wrapped for protection in a bed of gauze, while the opening in the bowel is sewed up and is later dissected out of its bed with much greater facility than when both ends are anchored. This is especially the case when it is attached to a pyosalpinx or ovarian or fibroid tumor. When it is imbedded in strong old adhesions, he detaches the organ at its base and catches the free end with a pair of artery forceps and circumcises it just below the forceps, going through the peritoneal and external muscular coats. A longitudinal incision including only these two coats may also be carried down the dorsum as far as visible, and the appendix is now stripped out of its bed by pulling it out; if it begins to break, it is grasped again by the forceps and stripping continued. There is often no bleeding, and when there is, it is easily managed. When the end of the appendix enters an abscess cavity surrounded by adherent intestines which can not be stripped off with safety, he has grasped the appendix close to the abscess, with a pair of forceps on either side, then split it open and followed its lumen as a guide by using a grooved director and pair of open scissors with one blade in the appendix. In this way he has been able to reach the abscess and open, clean it out and sterilize it without doing any damage to the intestines.

17. **Hydrochloric Acid Therapy.**—Hemmeter holds that the supplementing of HCl in deficient secretion is rational, even if we can not supply the deficit, because the amount necessary thereto could not be expediently administered. If we can not give sufficient HCl to make the chyme distinctly acid, we can at least add enough to exert a disinfecting influence and free it from a part of its germs, and perhaps produce some of the preliminary stages to peptone. He reports the case of a physician who suffered from extensive stomach dilatation with absence of HCl, which was unimproved by treatment until the operation of gastroplication was performed. This was done successfully and then free HCl was detected after the test meals. The glandular layer had not been destroyed by the disease, but the peptic cells had simply been exhausted, and when this condition was remedied and the normal amount of functions restored their normal secretions was recommenced.

18. **Metatarsal Fracture.**—After first calling attention to the probable nonrecognition of many cases of this condition and the symptoms of neuralgia, metatarsalgia, etc., that may follow, Beck points out the different methods of treatment for the different forms of this fracture. If there is no displacement present in the fracture of any of the second, third or fourth bones, simple plaster-of-Paris dressing meets all the requirements, the patient being kept in bed the first week, and later a solid plaster-of-Paris dressing from the toes up to the lower third of the leg being used. If the first or fifth metatarsus is broken and no displacement is noticeable, a small strip of moss-board, slightly moistened, is placed alongside the outer or inner margin of the foot before the plaster-of-Paris dressing is applied. The ambulatory dressing should not be chosen for this type before two weeks. If there is displacement of the second, third or fourth metatarsal bone in either direction, up or down, pressure will usually reduce the fragments and they are easily kept in place by co-aptation splints, preferably also consisting of moss-board and protected by plaster-of-Paris dressing. If the displacement, however, is sideways, the reduction is somewhat more difficult. It is best accomplished by grasping the fragments as firmly as possible near their epithelial ends and alternately turning and shifting them until reposition is perfect. Sometimes considerable counter-pressure is required. To hold them in place is still more difficult and there is danger of consolidation between the bones with functional impairment. Experience has taught him that metacarpal fragments are invariably held in place by elastic pressure. The same principles apply to metatarsal fracture. He therefore uses rubber drainage-tubes of moderate size lightly pressed into the adjoining interosseous space at the dorsum, so that they fill them up to a certain extent. These are kept *in situ* by adhesive plaster strips, and recurrence of displacement is prevented. The dorsum is surrounded then by a moss splint which adapts itself to the foot like a cast. Plaster-of-Paris dressing is then used, reaching from the toes to the lower third of the leg. The patient then remains in bed for ten days, after which ambulatory dressing is applied. When skiagraphed through the plaster-of-Paris dressing, the displaced fragments must be found in exact position. If not they must be replaced and redressed. He thinks that with this method, metatarsalgia and its companion affections will become very rare.

19. **Inguinal Colostomy.**—The following are the conclusions of Mayo's article: 1. Colostomy is not now a rival of excision of the rectum for malignant disease, and should only be employed in hopeless cases presenting obstructive phenomena. 2. For a permanent colostomy, the combination of Wyeth and Bailey's methods gives a satisfactory result. 3. Colostomy preliminary to excision of the rectum should be located high on the colon to give sufficient length of sigmoid to permit restoration of the continuity of the bowel. 4. For ulceration and other conditions in which the upper limit of the disease is not definitely known, the interior of the bowel should be explored through the inguinal incision in order to determine the proper site of the opening. 5. Right-sided colostomy has an increasing field of usefulness, as in amebic dysentery, chronic colitis, etc.

22. **Opinion Evidence.**—McLaughlin reviews the methods of opinion expert testimony here and abroad, and while he does not recommend the adoption of continental methods, he thinks the reform must be to make the expert the partisan of neither side and that we should go back beyond the common law to Roman jurisprudence for the principles to follow.

25. **Leucocytosis and Typhoid Perforation.**—A number of cases are reported by Russell, from which he deduces the following conclusions: That leucocytosis occurs in perforation, but in widely varying degrees, and that the leucocytes, while appearing as a rule early, may not be at all marked until general peritonitis and collapse have supervened. There may be an utter absence of leucocytosis with marked perforation and peritonitis. The cells may be lower than normal, and with typical signs of perforation and a definite leucocytosis there may be no such complication present. Leucocytosis to a marked degree may occur in other complications, such as bronchitis, cholecystitis, etc., but with pain and tenderness, however, in the abdomen, coming on suddenly during typhoid, and in the absence of cholyecystitis or other definite complications, a distinct leucocytosis, even without other symptoms of perforation, an exploratory operation is justifiable and advisable.

27. **Toxemia of Pregnancy.**—Marx's conclusions are as follows: 1. Toxemia of pregnancy is a complex condition depending on more than one factor. 2. Many women go to term with albuminuria, without symptoms referable to toxemia.

When such symptoms arise they are not caused by the albumin present, but by faulty urea secretion. 3. In the most desperate and malignant cases there is found neither albumin nor casts. 4. Urea is always found markedly diminished in the so-called true toxemias of pregnancy, or urinemias. 5. There should be a regular and methodical course of urea estimation in all cases of toxemia, or the relegation to secondary importance of the time-honored examination for albumin. 6. Progressive diminution of urea excretion, with or without albuminuria, is the sole indication for the induction of premature labor, which is especially indicated when conscientious medical treatment fails.

30. **Strangulated Hernia in Infants.**—Moschcowitz reports two cases which he thinks represent a hitherto unrecognized cause and seat of strangulation, viz., in the descent of the testicle the processus vaginalis may begin the shutting off of the normal tunica vaginalis, but the process may stop before it is entirely completed. The result will be a sac of the usual congenital variety, but constricted in the lower portion. He finds a case which appears to indicate this possibility, reported by Russell, and which seems to corroborate the findings in his own case here reported, though he has not found anything in the literature which positively thus accounts for the occurrence of this form of strangulation low down in the scrotum, which appeared in his case.

32. **Urinary Examination.**—Some errors in urinary examination are noticed by Heitzmann, such as assuming too much importance from the presence of albumin, which may be only a sign of the presence of pus corpuscles. A microscopic examination should be employed in addition to this test and this is not less important than the chemical examination. Hyaline casts are often described as being present when they are not; they are simply cylindroids or mucus-casts, that is, mucous threads resembling casts, which may be derived from any portion of the genito-urinary tract, and entirely independent of nephritis. Granular casts are often diagnosed from conglomeration of harmless bacteria on mucus. He also thinks the use of the centrifuge is productive of errors in this way. The diagnosis of nephritis does not necessarily depend upon the presence of casts: pus-corpuscles, red blood-corpuscles, and kidney epithelia are sufficient. The latter are never voided in healthy individuals, and if care is taken to look for pus-corpuscles, which are always the smallest granular corpuscles, mistakes can not be made.

38. **Floating Kidney.**—Lydston protests against indiscriminate operation in movable kidney, and advises a more conservative attitude. If the psychic disturbance in exceptional cases is such as to warrant operation, he believes that the operation of splitting the fibrous capsule, separating it from the cortex in such a manner as to fashion three or four triangular flaps to be stitched to the margin of the wound, with subsequent packing of the wound for three or four days with iodoform gauze and permanent suture on the removal of the latter, will give the most satisfactory results.

47. **Primary Splenomegaly.**—Three cases of enlarged spleen occurring in one family, and all in the same generation, have been under Brill's observation for fifteen years. There was enormous enlargement of the spleen and liver accompanied with profuse perspiration, tendency to hemorrhage, discoloration of the skin, conjunctival thickening, and nevertheless a comparative well-being and general comfort which does not seem to correspond to the condition. The cases can be easily distinguished from splenic anemia. The author does not attempt to give a thorough explanation of the condition, but suggests that it is a peculiar form of family disease characterized by enlargement of the spleen. When the physiology and pathology of the spleen becomes better known the pathology of these cases may be explained.

48. **Enteroptosis.**—According to Arneill this is an extremely common condition, seldom recognized or examined for by the average doctor, but a better knowledge of which will be of great worth to the profession and of untold value to suffering women. He describes the methods of examination, including palpation and auscultation, and use of the acid and soda method of gastric dilatation with which he has been rather successful. He gives tabulated statistics of 80 cases, 69 women and 11 men. In 28 of these there was a high degree of gastric dislocation, the entire organ lying below the umbilicus. In 41 the prolapse was of a moderate degree. In a few cases there was both dislocation and dilatation. The stomach contents were analyzed and the blood examined in a number of cases. The symptomatology was extremely varied. In a few there were no symptoms other than loss of weight, strength and "just run down." In a much larger proportion nervous symptoms predominated, a depressed, excitable state with irritable and hysterical phenomena, often with palpitation. Some patients were nervous wrecks, and in another group there were, in addition to the neurasthenia, derangements of the kidneys and gastralgia. In nearly all chronic constipation and sick headache were constant symptoms. In most cases there were uterine displacements and some had mucous colitis, probably secondary. He thinks that there is no etiologic connection between enteroptosis and chlorosis. Gastric subacidity was more often present than hyperacidity. He considers congenital predisposition important, but not the direct cause: child-bearing, constipation, etc., are mentioned. As regards the prognosis and treatment the statements must be guarded. Operation is advisable in cases accompanied with hydronephrosis and Dietls' crises where we have purely mechanical disturbances resulting from kinking or twisting of the kidney vessels, which could occur only when this organ was dislocated. Abdominal bandages may help in some cases, and where the stomach symptoms are prominent, gastric lavage and the use of hydrochloric acid are useful if there is subacidity. Exercise and massage of the abdominal muscles are of great value, but seldom satisfactorily carried out. Tincture of nux vomica has been of great value in many cases. There must be a great deal of individualizing in the treatment of the condition.

49. **Pancreatic Disease.**—Edsall reports two cases which seem to indicate that the reduction of ethereal sulphates may be a sign of value in the diagnosis of severe disease of the pancreas. This is not, however, conclusive, he thinks, and from a review of the literature he considers the test likely to be only an inconstant aid in the diagnosis and to be of real value only when positive. Even the positive results of the test would not always be conclusive since all varieties of ethereal sulphates have been observed as a result of hyperacidity, diarrhea, etc. He would not say, however, that it is entirely worthless. As to the importance of fatty stools in the diagnosis of pancreatic disease he considers the general clinical teaching that they are an indication of the condition. He quotes Osler's conclusions to the contrary effect and points out that Walters and others have demonstrated definitely that fatty stools can be seen in most cases of icterus in which the pancreas is entirely uninvolved. A case is reported as bearing on this point.

50. **Premature Infants.**—Adriance gives the characteristics of premature infants, their defective organism, difficulty of raising them, and the indications in their treatment. The greatest task is the maintenance of animal heat and only careful watching and great attention to details will succeed. The incubator alone can not be relied on; we should have as nearly as possible the conditions experienced *in utero*. Every effort must be made to assimilate this environment. If possible it would be better to forbid any disturbance whatever, but the matter of toilet demands a certain amount of handling; the simpler the clothing, the fewer the pins, the less the manipulation the better. The food should be given in very small amounts. A weak digestible food with special precautions against overtaxing the stomach is the best. The mother's milk can not be depended on, but a wet-nurse should be secured who has had a healthy infant at full term, at least two weeks, or better a month old, so that the characteristics of the colostrum period may be lost in the milk. The weight should be recorded at rather infrequent intervals on account of the disturbance that might be produced. The attacks of cyanosis should be promptly treated by administration of oxygen and minimum doses of whisky, and if they seem to be caused by

the food finding its way into the larynx it should be promptly removed by inverting and patting the back. Small doses of castor-oil are necessary to prevent fecal stagnation in the intestines.

52. **Trional.**—Hart reports a case of trional poisoning in which the amount given was apparently not excessive, viz., 450 gr. during two months. The symptoms were at first those of gastrointestinal poisoning. Following this was an acute degeneration of the kidneys, and hematoporphyrinuria. The first of the nervous manifestations were neuritis of the vagus and subsequent trophic disorders of the heart muscle resulting in dilatation and valvular insufficiency. With improvement in the muscle tone these last disappeared, leaving a normal heart. Trophic changes such as extreme emaciation and marked thickening about the joints of the fingers persisted after recovery. The possible fatal effects should be kept in mind. Several cases from the literature are noticed. Hart is inclined to favor the theory that disturbance of the function of the kidney was secondary to changes in the nervous system, as the urinary changes did not appear until some time after the development of nervous symptoms, and probably after elimination of the drug. The cumulative action of trional as shown by Marro is remarked upon; it should not be given continuously and the bowels and kidneys should be kept active during its use.

57. **Genital Reflexes.**—Robinson describes the sympathetic nerves of the female genitals and calls attention to the reflexes which occur from their dislocation. He specially mentions the stomach reflexes, asthma, cough, etc. The general treatment, he thinks, must be long continued and systematic, and local treatment of the skin, bowels and kidneys employed. We should use vaginal douches, gradually increasing in heat to the bearable point, and employ the boroglycerin tampon three times weekly. It may take a long time to accomplish a permanent result, but the future of medicine depends on physicians accomplishing more by non-surgical methods. The universal rule is now to sacrifice only hopelessly diseased tissue.

58. **Diabetes Mellitus.**—Dock remarks in regard to the tests for sugar, and thinks that the copper reduction tests should not give as much trouble as they do, though they have many sources of error. A control test is, therefore, indicated, and he prefers the phenyl-hydrazin test. The directions given in the text-books are unduly complicated. He finds satisfactory the method used in Ultzmann's poliklinik and recommended by Williamson, viz., putting phenyl-hydrazin hydrochlorate and sodium acetate into a test-tube to the height of .5 centimeter each and filling the tube one-third with the urine to be tested, boiling to dissolve the reagents, repeating the boiling several times; then allowing the tube to stand fifteen minutes and examining the sediments in the usual way. As a further control, and as a convenient, and for clinical purposes a sufficiently accurate quantitative test, he uses the fermentation method. The determination of the presence of sugar, however, is only the beginning of the study of diabetes. The further details of carbohydrate metabolism, the relation of the glucose excreted to carbohydrates ingested and the existence and amount of glucose in serious cases independent of carbohydrates, must be known. We should watch for the appearance in the urine of such substances as acetone, diacetic acid, etc., which indicate intoxication foreboding diabetic coma; and for diacetic acid the ferric chlorid reaction of Gerhardt is fairly useful. For oxybutyric acid there is no easy method suitable for the purpose, but one will probably be found. It is important in all cases to use the Gerhardt test. All organs of diabetics must be thoroughly investigated at the beginning and at frequent intervals, always with the thought that the whole metabolism of the diabetic is different from that of normal man. The prognosis must always be guarded, the patients are obliged to avoid nervous strain, and regular habits of life and diet are important elements. The treatment, if there are no symptoms requiring medication, may be purely dietetic and should be arranged on the ground of carbohydrate tolerance, the idea being to give as much carbohydrates as may be assimilated without damage. The diet is of much wider range than formerly, and mild cases can frequently get along with 100 grams of bread or its equivalent without discomfort. Fat in all forms, cheese, etc., are of value. A good rule before prohibiting or ordering any food is to ascertain the amount of carbohydrate contained to the proportion to be used.

64.—This article appeared in THE JOURNAL of January 12, p. 108.

66. **Pancreatic Diseases.**—Staples describes the symptoms of disease of the pancreas and holds that many cases loosely diagnosed as dyspepsia, biliousness and liver disease, and some of the cases diagnosed as chronic appendicitis, are really cases of pancreatic disease.

68. **Blood Examination in Surgical Diagnosis.**—The conclusions of Williams's article are, in substance, that the leucocyte count in inflammatory diseases is not reliable for determining the presence or absence of pus. It is of value: 1, in arriving at a preliminary diagnosis; 2, in prognosis; 3, as a guide to the course of pathologic or healing processes. The red count and hemoglobin estimation and observation of the character of red cells are often of value to the surgeon. The study of stained specimens is occasionally of value. Undue reliance upon special methods of diagnosis should be avoided, but it is incumbent on every practitioner to carefully observe and regard the progress of blood examinations in relation to diagnosis and prognosis.

77. **Pediatric Malaria.**—Northridge points out that the malarial germ, when it attacks a young child, produces different symptoms from those in the adult, as a rule. The quotidian instead of the tertian is the more common type, chill is often not readily detectable, the sweating stage is often absent or very slight, and the nervous system is especially liable to be affected, which is not the case with the adult. The older the child the more nearly do the phenomena approach the adult type, while the converse is also true. In infantile diseases where the diagnosis is in doubt and fever and periodicity are present, the presence of the hematozoon should be suspected. Quinin is the specific remedy, arsenic is next. Children bear both of these drugs very well.

78. **Clubfoot.**—Bogart believes in manipulating to relieve clubfoot, rather than in extensive operations, other than tenotomy of the tendo Achillis. He advises careful preparation of the part, as if it were to be a general operation, overcorrection and fixing by plaster-of-paris. He is satisfied that reduction by manual force readily applied, and retention by plaster-of-paris, is the best method, and when we add to this tenotomy of the tendo Achillis, and subcutaneous division of the plantar fascia, the great majority of cases can be satisfactorily treated and permanently cured. The open incision and tarsal resection and osteotomy he would reserve for those extremely rare cases which can not be corrected by other means. He doubts whether these occur under 12 years.

79. **Thyroid Extract.**—The experience with thyroid extract, reported by Elliott, leads him to sum up by saying that thyroid extract is a powerful alterative, possessed of some toxic properties, which may disappear under better methods of obtaining the drug. It has specially proven itself to be of value in the treatment of insanity, in those cases that are curable after the acute symptoms have passed away and there are beginning signs of chronicity. In other words, we should administer thyroid late rather than early in mental disorders.

88. **Nephritis.**—Upson discusses the relations of nephritis to certain symptoms, and believes that uric acid is the substance appearing in the urine which seems to be in close relation with nervous diseases, especially functional ones on the one hand and organic kidney diseases on the other. The relationship is a complicated one, the most of its problems still to be solved.

93. **Diagnosis of Typhoid.**—The febrile affections which may simulate typhoid, enumerated by Jackson, are febricula, which explains itself by its short duration, malaria, that may give difficulty in its estivo-autumnal type, and general tuberculosis, of all perhaps one of the most embarrassing forms, and in regard to which he says a case of continued fever with pros-

tration and rapid pulse and absence of Widal reaction should always arouse the suspicion of some hidden focus from which the agent of tuberculosis has invaded the system. Pneumonia may also run a rather latent course and the diagnosis may be difficult when lobar pneumonia complicates the early stages of typhoid. Cerebrospinal meningitis is another disease which, as is well known, may give rise to difficulty. Typhus fever is mentioned, and especially septic conditions, including those connected with appendicitis. Malignant endocarditis is possibly equal in importance to general tuberculosis in the differential diagnosis of typhoid fever. Its initial symptoms are often obscure and indefinite, the pulse is rapid, chills are frequent, but are combined with leucocytosis, which is not the case with uncomplicated typhoid. The physical signs from the heart may determine the diagnosis. Petechiæ occur in about one-third of the cases, and may be a clinical phenomenon to clinch the diagnosis of doubtful cases of typhoid with cardiac murmurs. The Widal reaction is not reliable in the early stages of the disease, and may not always be available, but leucocytosis occurs in all forms of sepsis and is available before the positive Widal reaction.

94. **Drowning.**—Lankester holds that death from drowning rarely occurs from asphyxia, and it is not scientific to say that the victim died of cramps or convulsions. In all probability he met his death from the absorption of some uneliminated material which may or may not have been formed partially or wholly during his immersion. The water is merely a mechanical factor in the process, not the direct cause, apart from the fact that it brought about faulty elimination, hence the failure to resuscitate the patient. So-called drowned people do not come to their death, except in a few cases, by water acting in a mechanical manner, hence resuscitation in these cases of so-called accidental drowning after prolonged immersion is so rare, while in those who have simply fallen in and the lungs have not become damaged by the churning of the liquid, it is the rule. This question of toxins is merely a theory, but he thinks it is the best explanation of death by drowning.

95. **Anesthesia.**—Magaw advises the use of nitrous oxid and ether in combination as having the following advantages: The initial excitement is avoided, which is a great comfort to the patient. The time for producing anesthesia is also considerably shortened and the amount of ether required greatly diminished.

96. **Massage.**—After describing the various methods of massage, together with the Swedish movements in the beginning of the treatment, Sneve says that its physical effects are generally increased metabolism in all the tissues, increase of the temperature temporarily, frequency of respiration, body weight, number of red blood-corpuscles, increase and changes in the character of the urine; toxic substances are set free for elimination, and it is of special value in improving mal-nutrition from any cause. To relieve insomnia, prevent atrophy, hasten convalescence, favor elimination and as a reconstructive it is also of value. It is useful in diseases of the blood, such as anemia and chlorosis, and wherever nutrition is below par it acts as a tonic and reconstructive. He concludes with the following special points to be observed: The treatment is usually given but once a day, but may be employed with advantage in the morning and at bed time. Always cover up each limb well after it has been manipulated. Do not use, as is recommended by some authors, an alcohol or other bath after massage, because you will be defeating the purpose of the whole treatment; when the treatment has been given in the morning and the patient wishes to be relieved of the cocoanut-oil or other fat, this should be removed an hour or two afterward by means of a little bay rum, eau de Cologne, or alcohol on a rough towel. Avoid unnecessary talking. Do not use enough force or hurt your patient.

104. **Jamaica as a Health Resort.**—Stafford's article is a description of Jamaica and a recommendation of it as the best locality in the Caribbean as a health resort. Among the advantages he recommends the stability of the government and the conveniences of modern civilization which are largely absent in other neighboring regions.

105. **The Plague.**—This is the complete report of the Government Commission on the plague in San Francisco, which appeared in The Journal for April 20 and 27.

107. **Rickets.**—Sherman considers structural weaknesses in the bone the cause of the skeletal deformities of rachitis. The active cause is muscular action or too great superincumbent weight or pressure. The bone always yields in the direction in which the greater force is working, and this is often determined by the natural shape of the bone, the tendency being to increase normal curves. In some cases there is hypertrophy of the deformed bone to antagonize the deforming force. Symmetrical deformities are characteristic.

115. **Atropin.**—Van Zandt, in his early practice, met with congestive chills in the malarial regions, and on failure of the ordinarily recommended treatment reasoned that if he could render the cold, blue and moist skin of his patients red, hot and dry, it would possibly have a good effect. Belladonna occurred to him as an agent suitable for trial, and he used it with success, later substituting atropin sulphate. He gives 1/60 gr. of atropin, and more in twenty to thirty minutes if no visible effects are produced, in some cases supplementing these with strychnia. Under this medication, he finds that reaction occurs and vomiting and purging ceases, generally in a few minutes.

116. **Burns.**—The first indication when called to treat a burn is to relieve the pain, and Binkerd finds the best agent for this purpose is a mixture of carbolic acid and glycerin; 1 part and 2 parts respectively. He says it may be applied to any burn with the best results; the pain will disappear in five minutes. He has had a large experience with these injuries, and he would apply this preparation, thoroughly rubbing the dressing on several times in the twenty-four hours, paying attention to the excretions and secretions and using careful cleanliness. After the angry swelling has begun to subside he changes to an antiseptic ointment composed of yellow wax, 1 oz., and olive-oil 3 oz., heated together, and then a dram each of carbolic acid and bismuth subnitrate with 2 to 4 drams of tannin thoroughly incorporated in the ointment. He applies this on a small piece of lint, warm, after first dusting with tannin and subnitrate, equal parts. He claims this is the very best and most satisfactory method of treating extensive and painful burns.

118.—This article appeared in The Journal of February 9, p. 363.

119.—Ibid., xxxv, p. 1086.

122.—See abstract in The Journal, xxxiv, p. 1491.

123.—Ibid., p. 1490.

126. **Intubation.**—Sampson's article insists on the importance of intubation and gives directions and illustrations how to make and use the apparatus, together with a table of dimensions for the tubes. He makes his tubes, in cases of emergency, out of lead or solder, pieces of wood, bamboo pipe-stems, or any substance which can be shaped and hollowed out to suit.

132. **Cervical Lacerations.**—Harrison calls attention to some peculiar reflexes observed by him in connection with lacerations of the cervix. Cases of supraorbital headache, of lumbago, of nausea, of palpitation, of choking sensation whenever the patient attempted to walk and aggravation by every irritation of the lower lesion of the cervix are reported. These were all relieved by operation and treatment.

133. **Duration of Life.**—Bankston reviews the life expectancy tables and the average duration according to occupation, and discusses the chances of lonegvity under ordinary conditions. He asks what should be the normal duration, and using the period required for maturity as a basis, which according to biologic investigations, he says, would be one-fifth of the total, he maintains that the average duration of life should be 130 years if all conditions of vitality for longevity could be observed and all intercurrent abuses and exposures overcome. The greatest achievement in the twentieth century will be the demonstration of definite laws for increasing the duration of life by eradicating all diseases, blemishes, degeneracies, crimes, etc.

143. **Periurethral Abscess.**—The special essential point emphasized by Bernart, in regard to follicular and periurethral abscess, is to make sure of the diagnosis, for a follicular abscess may closely simulate a chancre or a gumma; he refers to

occluded abscesses that do not discharge freely. He says we should try all the mechanical means available to produce an opening of the occluded duct or an absorption of the deposit, but never await the breaking of a follicular abscess, as the destruction of the tissue is greater, or it may break both externally and internally or may rupture internally and point backward, thus favoring urinary infiltration. We should open through the urethra, if possible.

147. **Quinin.**—Williams finds fevers in his section of Arkansas, where the attack commences with chills and frequently high fever, which do not react to quinin though they are commonly called cases of malaria. He thinks they are not malarial fever. He has practiced medicine in this region of the country for fifteen years, and for twelve months in each he has tried to cut short or cure a case of this fever with quinin and has always failed. Lately he has not used quinin and his patients get along better.

Tuberculosis.—The following corrected formula is inserted at the request of Dr. O. A. Fliesburg, whose article was abstracted in The Journal of April 13, p. 1074. It was copied verbatim from the *Northwestern Lancet*, which has since made the same correction:

Ol. Iodo-Bromo-Phosphori Comp. Steriliz.

℞. Iodi puri cryst.	1	50
Bromi puri	0	50
Phosphori puri	0	25
Thymolis		
Mentholis, āā	2	50
Guaiacolis	1	25
Ol. Morrhuæ, steriliz.	50	
Fiat sol. secundum artem.		

FOREIGN.

British Medical Journal, April 13.

The Saline Treatment of Dysentery. W. J. Buchanan.—The author published, in a previous issue, Feb. 10, 1900, a note on the results of the treatment of dysentery by salines, in 555 cases with only 6 deaths; 300 more cases have since come under his observation in the Central Prison, Bhagalpur, Bengal, making a total of 855 cases with 9 deaths. The results are better than those of the previous year. The average stay in the hospital was about eleven days, though many might have been discharged earlier, if it had been thought best. There is little to add to his remarks previously made. He used, throughout the year, the following mixture: Sulphate of sodium, 1 dram; aquæ fœniculi, ad 1 ounce, given four, six or eight times a day, each dose representing 1 dram of the saline. No dose was repeated on the following day until the stools had been inspected. The treatment was continued until every trace of blood and mucus had disappeared, which was generally the case in two or three days. In some cases they returned in three or four days, necessitating repetition of the treatment. He advocates this method for acute cases only, and does not deem it safe with chronic or relapsing cases with ulceration of the colon. Considering the fact that the death-rate among the natives, from dysentery, is usually given as from 30 to 37 per cent., its reduction to about 1 per cent. is certainly a favorable showing.

Resistance of the Larval Mosquito to Cold. M. J. Wright.—Mosquitoes, it appears, occur abundantly in Aberdeenshire, Scotland. Wright has observed three species of the Anopheles and three of the Culex, which appear in great numbers from the middle of August to the middle of October, and are just as vicious as those in the tropics. The Anopheles bifurcatus and Culex nemorosus are the worst, while the Culex annulatus could not be induced to bite. The favorite feeding-time was late in the evening, but the Culex nemerosus was ready for business any time. The Culex pipiens and Anopheles bifurcatus would occasionally start blood-sucking on dull days or in a shady place in the woods. The observations were specially made, however, to test them in different climatic conditions; he found the larvæ under ice, active, in the latter part of October, and under the snow in pools in February. Most of the adult insects that he had in captivity died in the cold weather, and he is inclined to believe that the larva is the condition in which they pass the winter. The larvæ that changed into pupæ late in November, December and even January, died before completing their metamorphosis, and it appears that Scotch mosquitoes do not bear cold weather well. As regards the statement that the adult mosquito hibernates during the winter, he finds no actual proof of it. The larvæ, he thinks, *continue the species without hibernation, and* can be searched for and found with greater ease than the hibernated mosquito in out of the way corners. He believes that the best method of destroying the larvæ is not the intermittent application of coal-oil, but the suspension of a vessel containing the kerosene over the water and arranging for the discharge of the oil drop by drop. This is most advisable in accumulations of water near dwellings that can not be drained off or filled in.

The Practitioner, April.

Physiology of the Ductless Glands. John Rose Bradford.—Glands may be described as having one or more than one of three functions: they may elaborate an internal or an external secretion or an excretion, the distinction between the last two being usually quite as marked as between the first and second. Some glands confine their activity to the production of external, others, like the thyroid and suprarenal, of internal secretions. Further investigations may show still greater activities. Many glands have not only an external but also an internal secretion, like the liver, the glycogenic function of which is essentially of the nature of the internal secretion. The kidney is the most obvious excretory gland, though there is a possibility of other functions. Any secretory gland may under certain circumstances excrete, as the salivary glands, iodid of potash, and the liver may excrete toxic substances. In pathologic conditions this may occur to a large extent. In many glands the phenomena are under the control of the nervous system and this specially applies to external secretions and is best observed in the salivary and sweat glands. There are also other glands where there is probably a nervous control, where we have no conclusive evidence of it. The relation of vascular change to secretion is intimate, though it is independent of the process of secretion. In cases of internal secretion the nervous system acts less plainly, but there is evidence that it has its influence as in the case of the so-called diabetic puncture of the fourth ventricle affecting the liver. The external secretions are generally substances having a physiologic action, frequently ferments. The excretions of the gland are generally of no future use to the economy, though there are excretion processes with physiologic action besides, as, for example, the activity of the sweat glands influencing the bodily temperature. Internal secretions apparently are required for the physiologic activity of certain specific tissues of the body, and their existence is clearly established, in the suprarenals and thyroid, which fact has thrown a great light on the pathology of diseases of these organs. There are, however, many things to be worked up in regard to this, for example, the function of parathyroids in exophthalmic goiter. The removal of the parathyroid tissue experimentally, in spite of its small bulk, has the same fatal effects that follow complete removal of all thyroid tissue, though it does not seem to contain the colloid material, which contains the essential product of thyroid activity. Bradford thinks, in spite of all difficulties, the most plausible explanation of Graves' disease is that it is due to hypersecretion of the thyroid. As regards Addison's disease, it is impossible to get a complete explanation as the pathologic effects of the suprarenal are not known. The glycogen excess of the liver and the relation of the pancreas to glycosuria are also mentioned, but this only serves to show more clearly how complicated the problem of internal secretions are. Brown-Séquard many years ago considered that the kidneys had an internal secretion, and it does seem evident that the renal tissues may have some other functions than those of mere excretion, but the evidence of an internal secretion is not conclusive. We can not fully explain the pathology of uremia, and modern experimentation would seem to show that it does not result from the mere retention of morbid urinary constituents, but that it is in some way associated with proteid disintegration. The possibility of internal secretions of the sexual glands is also mentioned, though other possibilities of the effects of their removal being produced in some remote or not understood way through the intermediation of the nervous system are also remarked upon.

Therapeutic Uses of Thyroid Extract. George R. Murray.—The function of the thyroid is to form an internal secretion, the colloid material; it is discharged from the alveoli to the lymphatics and is conveyed to the general blood stream. This secretion plays an important part in the general metabolism, which is impaired when the supply is absent or insufficient. The thyroid or thyroid extract is of value in the treatment of those conditions due to destructive diseases of the thyroid gland. The different ways in which this may be used are mentioned, but Murray thinks that the official preparations are preferable. Advanced cases of myxedema are now seldom met with since thyroid treatment has been adopted for the condition. The treatment here is divided into two stages: In the first the object is to get rid of the symptoms and restore the patient to health. In the second it is to keep him in the normal condition, and this necessarily lasts as long as the normal thyroid supply is maintained, even the whole life of the patient. He prescribes, as a rule, in the first stage only small doses, gradually increasing them to about 10 or 12 minims of liquor thyroidei, or 2 gr. of dry thyroid daily, and continues at this dose until the symptoms of the disease have disappeared. During the second stage as a rule 1 dram of liquor thyroidei a week is sufficient. Cretinism is a condition treated on much the same plan as myxedema and the earlier the better. He uses 1 minim of liquor thyroidei daily for each year of the child's age up to 10 or 12 years. In certain cases of goiter, especially the simple parenchymatous type in adolescents and young adults, thyroid treatment is very useful. Here it seems that the thyroid becomes hypertrophied in response to the demand for an increased supply of its secretion. By thyroid treatment we relieve it from some of its work and check hypertrophy. The soft parenchymatous goiter can in the majority of cases be reduced to two-thirds, one-half or even one-third of its former size, and this is usually sufficient to remove the dyspnea and lung discomfort. In some cases treatment fails; if no diminution is observed at the end of two months further treatment is probably useless. The symptoms of thyroidism are described and exophthalmic goiter discussed at length. It is a condition in which thyroid treatment is especially contraindicated. Thymus extract can be given with perfect safety, but its results are somewhat negative and opinion differs as to its utility. In one case treated by Murray, in which the patient took three thymus tablets a day for nine months, there was great improvement. Bramwell has found decided improvement from thyroid treatment in certain diseases of the skin, psoriasis for example, and it is useful in ichthyosis, though relapses may occur. In obesity it is useful as an adjunct to dieting, but can not be relied on alone. In some cases the dieting treatment fails without it. In many cases of insanity, even aside from those connected with myxedema, thyroid is often of value. The results of Easterbrook, Macpherson, and others are quoted. Lastly the author mentions Beatson's suggestion of treating inoperable carcinoma of the breast by the removal of the tubes and ovaries, combined with thyroid administration, and the good results also obtained without the operative treatment by thyroid by Page and Bishop. It seems probable, he thinks, that some 20 per cent. of the cases of inoperable mammary carcinoma are benefited by the combined treatment, though after the menopause removal of the ovaries does not seem to be so important. In these cases the doses of thyroid extract should be increased until distinct signs of thyroidism are produced. We have no evidence that this treatment is of any use in carcinoma of other organs.

The Chemistry of the Thyroid in its Physiologic and Pathologic Aspects. Robert Hutchinson.—The chemistry of the thyroid is noticed by Hutchinson, who finds iodothyrin the only physiologic active constituent. It is difficult to account for the iodin in the organism, it is also difficult to say whether it is essential to the activity of iodothyrin. He concludes that if its presence is essential it is not through virtue of its being iodin, but by reason of the peculiar form of organic condition in which it occurs. As regards the physiologic action of iodothyrin, he concludes that it can not be regarded as the ideal antifat remedy, because, instead of causing fat to be consumed alone or largely, it produces early destruction of the proteid tissue. When one reflects on the minute doses of iodothyrin which are capable of producing such profund effects on metabolism, one is filled with astonishment and tempted to suppose that it exerts its influence through the nervous system rather than directly through the tissues. There is, however, no proof of this beyond its influence on the general metabolism; no specific action of thyroid on any special organs in the body has been proven. What becomes of iodothyrin after it has affected its work is hard to say. It is possible that it may be used, taken up and used over again, but it may be excreted, as a trace of iodin can be detected in the urine after thyroid administration, and symptoms of thyroidism have been observed in nursing infants whose mothers were being thus treated. The toxic symptoms of thyroidism are held by the author to be due more probably to some other product produced in the increased metabolism that the thyroid induces. As regards goiter, chemical investigation has not thrown any light on its pathology, but in myxedema the case is different. Myxedema is a disease in which the general metabolism is sluggish and the effect of the thyroid is to stimulate it. The physiologic action of iodothyrin explains the therapeutic action in this disease. The hyperthyroidization theory of exophthalmic goiter is not the one endorsed by Hutchinson. No one has yet succeeded in producing Graves' disease even by enormous doses of thyroid. Neither can we assume that it is producing an abnormal secretion of unusual potency, for investigation of the colloid matter from the enlarged thyroid in Graves' disease fails to show any marked departure from the state of health; and its administration experimentally and clinically is not attended by any symptom indicating increased toxemia. Parathyroids also contain iodin. He believes that the accumulated evidence seems irresistible that it is to the removal of the parathyroids that the nervous symptoms ordinarily associated with general thyroidectomy are due. It seems more probable, however, that they are concerned in the removal of something from the blood, rather than adding something to it. Administration by the mouth does not combat the symptoms resulting from their removal, nor does their administration have any beneficial effect in myxedema, and they have been found entirely inert in cases of insanity. Removal of the thyroid alone probably causes myxedema, while removal of the four parathyroids produces the acute tetanic symptoms observed after so-called experimental "thyroidectomy." The symptoms of myxedema can be explained by the absence of iodothyrin from the blood. The symptoms of parathyroidectomy are not susceptible of any satisfactory explanation as yet. The chemical evidence is, on the whole, opposed to the over-action theory of the thyroid of exophthalmic goiter, but whether the parathyroids play any part in the production of that disease, chemistry is not yet in a position to decide.

Annales de Dermatologie (Paris), March.

Ducrey's Bacillus and Humanized Media. Lenglet.—It is almost impossible to cultivate Ducrey's bacillus from the primary simple chancre, but it can be accomplished by inoculating a second chancre on the thigh. The bacilli cultivate readily from the pus of the second lesion. This measure is unnecessary, however, and superfluous, as microscopic examination alone is sufficient to determine the presence of the bacillus. It is a coccobacillus, isolated or sometimes surrounded with a glairy substance which fastens the bacilli together in clumps or chains.

Early Pupil Symptoms of Acquired Syphilis. Sulzer.—Out of 53 syphilitics examined, 14 exhibited the anomaly which Sulzer believes he is the first to note. Visual acuity and light-perception are practically normal, and the symptom, the lack of associated reaction on the part of the pupils, is evidently due to a lesion of the motor part of the peristaltic arc which occasions the contraction of the pupil under the influence of light and of near fixation. In 12 of the 14 patients, the pupil reaction to light was weak or absent, while convergence was normal. This peculiarity is characteristic of the Argyll-Robertson sign, but differs from the latter as the pupils were of medium diameter or much dilated in all the syphilitic patients. In one case the pupils did not react to light nor in convergence, and in another, the lack of associated reaction was the reverse of that in the Argyll-Robertson sign; light reaction was retained while convergence did not occur. Accommodation was normal in all. This distinct and constant dissociation distinguishes the disturbances observed from internal ophthalmoplegia. It also explains why this anomaly has passed unnoticed. The vision being undisturbed, it attracts no attention. All of the patients were in the first year of syphilis, the majority in the third month. The duration of the symptoms is less than that of internal ophthalmoplegia, the course averaging four to six weeks. In one case the dilated pupil was immovable, but accommodation was intact.

Urinary Formula in Dermatoses. Gastou.—For several years Gastou has been studying the urinary formula in cutaneous affections, and, comparing the results he has obtained with those of other investigators, he finds that in acute, non-medicinal dermatoses the specific gravity of the urine and the chlorids are increased, while the urea and phosphates are diminished. In chronic dermatoses with nervous or cachectic manifestations, the specific gravity, the urea and the phosphates are diminished, while the chlorids are increased. In bullous dermatoses all the elements are generally diminished, but during exacerbations there is considerable modification of the proportions between these elements. In the secondary stage of syphilis and at the period of tertiary visceral lesions, all the elements are increased except when the nervous manifestations induce a decrease of all the elements excepting phosphates which are increased. Subnormal acidity and subnormal amounts of phosphates are the rule in dermatoses. Investigation of the acidity is facilitated by the fact that, as it is mostly due to acid sodium phosphate, titration with calcium saccharate does not require any staining reagent. The normal formula is for the density, corrected to 15 C., 1.017; total acidity in SO_4H, 0.849; phosphoric acid in PO_5, 2.083. Fifteen different cutaneous affections were studied and hypoacidity and hypophosphaturia found the rule. The therapeutic indication is therefore to increase the acidity and the phosphates. Cautru, from his study of hypoacidity in arthritis, advocates the following medication: 1, increase the fluids ingested, avoiding alkaline waters; 2, increase the phosphates by taking 3 gm. of sodium phosphate in a glass of water on awaking; and during the two principal meals, a teaspoonful of a solution of medicinal phosphoric acid, 17 gm. in enough distilled water to make 250 c.c. The dose is increased by a teaspoonful after four days, until by the eighth day a tablespoonful is being taken. This treatment should be kept up two or three weeks and the urine examined every month. To prevent digestive disturbances with pain 1 gm. of precipitated calcium carbonate can be taken two hours after meals, in water.

The Blood and Urine in the Course of Alopecia. Jacquet and Portes.—Fifty-nine cases of alopecia areata were examined, and it was found that the maximum of disturbances in the hair growth, correspond with the maximum of disturbances in the urine and blood, in the majority of cases. A marked hyperchloriduria was also discovered, corresponding to a marked hypochloridemia in the advanced cases. The results of this research indicate that persons affected with alopecia are suffering from an actual dechloridation, and this fact taken in connection with the tonic and beneficial action of injections of salt solution indicates that alopecia areata is a local trophic disturbance grafted on a general trophic disturbance, and is in fact a mere episode on the surface of this profound dystrophy.

Annales de la Soc. Med.-Chir. de Liege, March.

Bacteriology of the Lungs. L. Beco.—The blood was found sterile in 21 out of 50 cases of pneumonia examined by Beco, and in only 9 was pneumococcemia evident. In two mild cases a few scattered pneumococci were found in the blood. These facts, taken in connection with the results of research on the bacteriology of the lungs, indicate that while the lung may be the portal of entry for infection, it is not favorable to its development. Beco has previously shown that virulent pneumococci may live in the lungs without determining any appreciable lesion. He points out the fact that these and other bacteria living harmlessly in the lungs may invade the surrounding organs postmortem. Bacteria found in various organs on autopsy do not necessarily originate in the alimentary canal, as has been generally assumed.

Gazette Medicale de Paris, April 6.

The Bacillus of Articular Rheumatism. P. Achalme.—The bacillus which Achalme described in 1891 is probably, as a rule, an ordinary saprophyte. Under the Influence of fatigue or cold, the blood becomes favorable for its development, and it passes by way of the circulation to the heart muscle where it locates, the activity of the muscle furnishing it with the culture-medium it prefers. It may propagate in the serous membranes of the endocardium or pericardium and in the pleura, even before the articular manifestations. The latter by their symmetry, their mobility, and their occasional sudden disappearance with complete restitution, indicate that they are not directly microbian, but are due to the toxins generated by the bacilli ensconced in the primary focus, the heart muscle. There is a sort of eruption on the synovial membranes consecutive to the carditis, like the sore throat of scarlet fever. The carditis may exist without articular complications. The bacillus causes an actual process of putrefaction in the living tissue, the products of which are probably amido-acids, as *in vitro*. Sodium salicylate combines with the most important of this group, glycocol, and is eliminated as salicyluric acid. This fact suggests an explanation of its heroic action in acute articular rheumatism as well as in other non-infectious rheumatic manifestations. The bacillus is of the same size and shape as the anthrax bacillus and the septic vibrio. It is anaerobic, takes the Gram and the Claudius stains and requires a temperature above 21 and below 45 C. The sporulation is ovoid; not so terminal as that of the tetanus bacillus. It grows on milk with production of gas, and coagulates into a small clot, pitted with holes from the action of the bubbles. It induces an acid fermentation at the expense of the carbohydrates, but never sporulates in an acid medium. If a rabbit is inoculated with 2 c.c. of a culture of the bacillus, it usually dies in four or five days with serous effusions in the pleura and pericardium, but it is impossible to find any of the micro-organisms in the fluids or tissues. A smaller dose kills a young rabbit in thirty-six to forty-eight hours, with a pronounced infection of all the organs. The results of bacteriologic examination of patients are positive in some cases and negative in others, but before accepting the negative findings milk or bouillon should be copiously sewn with small cubes cut from the myocardium.

Journal de Medecine de Bordeaux, March 24.

Lumbar Puncture in Case of Cerebral Tumor. J. Abadie.—A woman of 42, with intense headache from an assumed cerebral tumor, but no fever, was treated in vain with the usual remedies to relieve the pain. The only respite obtainable was after large doses of bromid and chloral. About 25 c.c. of cerebrospinal fluid were withdrawn, followed at first by an aggravation of the headache and nausea. By the next day the headache, and soon after the optic neuritis, had permanently disappeared. Abadie is inclined to try lumbar puncture henceforth in all cases of headache from any source, rebellious to other measures. The disappearance of the optic neuritis from stasis, after the puncture, is another argument in favor of the theory that this neuritis is due to hydrops of the sheath of the optic nerve.

Journal des Sciences Medicales de Lille, March.

Salt Solution in Severe Burns. A. Besson.—The blood becomes very much modified in case of extensive burns with phlyctenæ and blisters, principally in the loss of fluidity and the resulting tendency to coagulation. This functional paralysis of the blood causes the retention and accumulation of toxins in the circulation and general intoxication. Persons who die from extensive burns succumb with symptoms resembling those of uremia. The subcutaneous injection of salt solution restores fluidity to the blood and water to the dehydrated tissues, raises the blood pressure, stimulates the nutritional changes, modifies the visceral circulation and frees the blood and the tissues of the toxins elaborated in general metabolism, and the waste products, the elimination of which is checked or arrested in consequence of the nutritional alterations in the emunctories. The amount should be at least 1000 c.c., repeated twice a day or even oftener if necessary. The formula which Besson has found successful in a number of severe cases is 8 gm. of sodium chlorid to 1000 gm. of water.

Semaine Medicale (Paris), April 10.

Paresthetic Meralgia and Flat-Foot.—J. Pal, of Vienna, calls attention to the fact that in eight cases of paresthetic meralgia he found the affection coincident with an incipient or developed flat-foot, dependent in its turn on a rapid increase in the weight of the body.

Centralblatt f. Chirurgie (Leipsic), March 23.

Application of Fracture Bandages. F. Baehr.—By applying a broad bandage around the limb at the point of fracture, if the two ends of the bandage are crossed to the right and left, exactly parallel, traction on the ends during extension of the limb will pull the displaced stumps of the shaft into the corrected position. The bandage thus applied works much better than the fingers for the purpose. It can even be applied in this way through a plaster cast, by leaving an aperture for the ends of the bandage, which can then be tied, with traction, over a slat. Baehr relates several instances in which the stumps would not consolidate in the normal position after many trials. Application of the bandage curb described resulted in complete normal consolidation in twenty-two days or less.

March 30.

Muscle Flap for Large Hernia. Salistscheff.—A large hernial orifice the size of a man's fist was closed by two muscle flaps cut in half the thickness of the rectus muscle, above and below the aperture, and turned over on it, still attached at the base, 2 cm. from the edge of the defect. The flaps were sutured together and formed a solid muscular wall over the aperture. In another case the defect was the size of a man's head, in the lower right inguinal region. One long flap was cut in the rectus, attached below, and was twisted over to cover the defect. The results have been extremely satisfactory.

Dermatologisches Centralblatt (Berlin), April.

Bromin and Tannin for Pruritus. M. Joseph.—Bromin has an anesthetic, and tannin an astringent action on the skin. The combination produces a salve which is very effective in all forms of pruritus, according to Joseph's tests and experiences during the last twelve months. He uses a dibromotannin jelly, about 20 per cent. bromin to 40 per cent. tannin, known as bromocoll and first suggested by H. Brat. The alkaline secretions of the skin enhance the action of the salve, which has considerable disinfecting and healing power. It never produced symptoms of irritation in subacute or chronic processes in his experience. He uses a 10 to 30 per cent. jelly and found the local and general effect prompt and most gratifying, especially in cases of lichen, urticaria and cutaneous neuroses.

Deutsche Med. Wochenschrift (Berlin and Leipsic), April.

Diffuse Peritonitis After Appendicitis. E. Sonnenburg.—During the years 1894 to 1897 only 25 patients out of 61 with peritonitis from appendicitis in Sonnenburg's service, survived. It was the progressive, fibrino-suppurative variety in 28, with 64 per cent. recoveries, and diffuse, ichorous suppurative in 33 with 21 per cent. recoveries. He reports since 1897, 54 recoveries in 89 patients, including 71 per cent. recoveries in 53 cases of fibrinous, and 44 per cent. of 33 cases of ichorous peritonitis. He attributes this favorable record to his practice of operating within twenty-four hours, whenever possible. He incises in the cecal region and, instead of draining, tampons extensively, his "apron tamponade" keeping the abdominal cavity well open. He rejects irrigation as liable to cause shock and favor paralysis of the intestines. Spontaneous, continuous pain and its increase under pressure speak for the ichorous variety. In dubious cases under expectant treatment, morphin should be given in very small doses so as not to mask the symptoms.

Three Extraperitoneal Tumors. C. Helbing.—The first tumor was a cyst containing ciliated epithelium. It had developed in the cavum Retzii, possibly from relics of the parovarium. The second was a cyst in the vicinity of the tail of the pancreas, springing from the retroperitoneal connective tissue, probably a sarcoma. Both patients were women 43 and 60 years of age respectively. The third patient had a papillary, partially cystic adenocarcinoma in the region of the kidney, with no connection with any retroperitoneal glandular organ and which was traceable to no embryonal germ.

Two Cases of Urogenital Coli-Bacillosis. W. Karo.—The colon bacillus was found pure in the pus in the epididymis in both cases. There was concomitant enteritis in each case and both troubles vanished together, suggesting a connection between them, although there had been preceding gonorrheal affection in one case. It is impossible to decide whether there had been originally infection of the urethra and bladder or whether it occurred through the prostate and seminal vesicles or through the blood. The testicle was much involved in both cases and the disturbances commenced acutely with considerable temperature and intestinal disturbances. One patient was a man of 65, and after a comparatively mild stage, evidences of a severe general infection became apparent. This exacerbation may have been due to a suddenly augmented absorption of toxins or to an overloading of the organism with bacteria, which the body disposed of without the production of metastatic affections and which appeared only once, as the focus of the acute lesion was removed with the ablation of the testicle and epididymis. The primary benign phase may have corresponded to the purely inflammatory, suppurative stage and the exacerbation to disturbances in the circulation and necrosis. The other case was more chronic. There was a history of syphilis and gonorrhea in 1895, the next year a second gonorrhea with bilateral epididymitis which was cured after five weeks of hospital treatment. In 1898 a urethral discharge commenced and resisted all treatment until April, 1900, when the patient took a strong purgative and two days later the right testicle became swollen, with much fever and severe pains. The prostatic and seminal secretions contained the colon bacillus pure as in the first case, and it was also derived from the scrotal ulceration by puncture. The latter subsided after the puncture and the enteritis also yielded to calomel. The two cases show that the affection may become threatening at any moment, although the early stage is benign. This suggests the query whether castration should be proposed to the patient earlier in this than in other affections of the testicle, to forestall general infection. Karo thinks this is unnecessary so long as there are no indications of suppuration in the genital glands, and the patient has no serious subjective symptoms. He must be kept under constant supervision and an incision made on evidence of fluctuation or if severe subjective symptoms supervene, or if the fever keeps up unduly long. If the patient's condition still remain threatening, castration should be the last resort.

Wiener Klinische Rundschau, March 31.

Intraperitoneal Rupture of the Bladder. Krabbel.—There are only 40 cases of extraperitoneal rupture of the bladder on record, and 152 intraperitoneal ruptures. The differentiation of the two varieties is difficult. It is assisted by rectal palpation under narcosis and a tetanic tension of the abdominal wall. The latter is pathognomonic of an intestinal lesion and also of an intraperitoneal rupture of the bladder, at least in the first few hours. In one case the rupture was both intraperitoneal and extraperitoneal. Dittrich states that a "box sound" in the bladder region, just above the symphysis, indicates a rupture of the bladder in the extraperitoneal portion of the organ. This deep sound is heard after catheterization, probably due to the entrance of air through the catheter. Peritonitis appears about forty hours after the rupture into the peritoneum. The symptoms are much less severe in case of an extraperitoneal rupture and the infiltration of urine is more evident, in most cases. The operation should not be deferred an hour. The incision should be longitudinal and the peritoneum detached and sutured, transforming the intraperitoneal into an extraperitoneal lesion in which the chances of recovery are far more favorable. Berndt advises incising the bladder to locate the rupture, if necessary. In a personal case reported, Krabbel was erroneously led by the quantity of blood-stained urine voided by catheterization, to assume a mere lesion of the mucosa, but symptoms of peritonitis the fourth day indicated an intraperitoneal rupture. He operated at once, tamponned and cured the patient. He is inclined to believe that an intestinal loop must have been adherent near the spot of the rupture, which partially occluded it and checked the outflow of urine. The small amount remaining in the bladder was absorbed by the peritoneum during three days without disturbance.

Horseshoe Kidney. J. Preindlsberger.—This anomaly was noted by the writer six times in the course of 1344 autopsies. In five the kidneys were united below and in one above. Each is illustrated. Four of the subjects were adults; no evidences of renal trouble had been noted in any case. In one case a third renal branch of the aorta emerged from the aorta 1 cm. above its lower fork, and passed to the lower portion of the right kidney.

Wiener Klinische Wochenschrift, March 7.

Differentiation of a Diverticulum in the Esophagus. W. Zweig.—Systematic rinsing out of the diverticulum is the only means to prevent stagnation of food in it and consequent disturbances. Faradization, sounding and all other measures are useless, according to Zweig's experience. The cardiospasm causing the so-called idiopathic dilatation of the esophagus, on the other hand, should be treated by systematic, repeated sounding, and the atony of the esophagus dispelled by local faradization. The existence of a diverticulum is frequently suggested by the anamnesis, and study of the sounds made in swallowing shows that the second sound is absent or much modified. The diverticulum can be easily diagnosed by inserting two stomach-tubes with several perforations at the tip. The first almost inevitably finds its way into the diverticulum. When the second is then introduced, it passes directly into the stomach. The capacity of the diverticulum is determined by estimating the amount of stagnated food evacuated from it. The same quantity of a solution of methylene blue is then introduced through the first sound into the diverticulum, where it remains. Slowly withdrawing, then, the second tube—which has passed into the stomach—not a trace of the blue fluid will be evacuated through it, and the tube will not be stained with the blue at any point. In case of a mere dilatation of the esophagus, on the other hand, the colored fluid will pour out from the top of the tube as it enters the esophagus, and the stain will be conspicuous at the tip.

Auto-Observation of the Elimination of Acetone. Schumann-Leclercq.—The tests on the author in sound health, which are described, extended over a period of two or three months at the same season of the year in two consecutive years. The results confirm the assumption that the transformations of fat in the body are the principal if not the only source of the acetone eliminated. Carbohydrates diminish the amount of acetone eliminated, by their pronounced inhibiting influence on the transformation of fats.

Infiltrating Carcinoma of the Bladder. J. Englisch.—The chief points in the differentiation of infiltrating, from other varieties of carcinoma of the bladder, are the even, exceptional hardness of the bladder walls and the limited capacity of the organ. The infiltrated portion feels like a hard, tough plate, and the bladder, whether full or empty, seems distended and unusually solid, like a youthful bladder. The early, severe pains are also significant. They may be neuralgic in character and radiate to the small pelvis and sacral region, or to the kidneys. Urination is painful and the desire exceptionally frequent, with no relief after emptying the bladder. The urine at first is normal, later becomes cystitic, and finally purulent with numerous coagula. The persistence of these characteristics, unmodified by treatment, is also an important sign in combination with the persisting pains, relief from which can be obtained only from powerful doses of narcotics. Tenderness of the spine or other bones, and numerous metastases, speak for a carcinoma of the prostate. The patient usually applies to the physician for relief from supposed *persisting catarrhal symptoms*. The neoplasm is then too far advanced for more than a palliative operation. Legueu is the only surgeon who has succeeded in curing a patient thus affected. Albarran has reported seven operations, none successful. The extensive infiltration and adhesions with adjacent organs render the operation peculiarly difficult. If necessary the ureter can be implanted in the sigmoid flexure, or an abdominal fistula can be made to spare the patient the pains of micturition. In the two personal cases reported, a slight difficulty in urinating had been noticed for years, with occasional pain in the sacral region. After a severe cold, micturition became intensely painful and accompanied by hematuria. Pains soon appeared in the renal region and in one case death occurred four months later. The patient was a man of 69. He was unable to tolerate a permanent catheter.

March 28.

Pathology of Migraine. M. Sihle.—A careful study of the condition in his own case has convinced Sihle that the connection between migraine and epilepsy is extremely close, even hinting that the future may prove that migraine is an epileptic seizure without convulsions, and epilepsy merely an advanced stage of migraine. He considers it established that a unilateral alteration of the cortex is the indispensable prerequisite, entailing a pathologic susceptibility to chemical influences. The uric acid diathesis, tuberculosis, anemia and similar chronic nutritional disturbances prepare the soil on which the abnormal chemico-toxic effects develop. Besides this, certain agents affecting the brain directly may be the means by which an attack is precipitated, for instance, strenuous mental effort, stimuli affecting a single sense, as strong perfumes affecting the sense of smell, street noises, the hearing, a dazzling light, the sight, irritation from nasal polypi, etc., and digestive disturbances which irritate the brain by the toxins poured into the blood. The "Flimmerscotoma" or *temporary partial amaurosis which precedes migraine, in at least* half the cases, is usually crossed in respect to the following pain. It is probably due to the action of the toxin on the cortex. As the cortical cells dispose of or eliminate the toxin and return to their previous condition, the toxic elements, leaving the cortex, have to pass the pia, and induce swelling and hyperemia which in turn irritates the nerves and induces the pain. Migraine is therefore a pain in the pia mater. It is usually localized in the temples as the temporal regions are peculiarly susceptible to toxic influences, as shown in the headache after drinking liquor.

Rivista di Patologia Nervosa e Mentale (Florence), January.

Modifications of Nerve Cells in Acute Intoxications. M. Camia.—The various phases of functional activity of the nerve cell are probably accompanied by many slight modifications in its anatomic structure, not sufficiently marked to induce any change in its structural physiognomy. In experiments on twenty-four dogs and a number of rabbits and guinea-pigs, injected with large doses of convulsive and narcotic drugs —strychnin, cocain, etc.—the alterations produced in the course of these acute intoxications were comparatively slight and probably reparable. They are evidently due to disturbances in the nutrition of the cell rather than to any functional perturbation. They differ but slightly in the diverse intoxications, varying only in degree, independently of the symptomatology of the intoxication.

The Efferent Cerebellar Routes. F. Orestano.—In experiments with dogs who had had the cerebellum removed, actions which are habitually automatic, such as walking, etc., were only possible when the animal exerted its will for each step of the process. If the animal's attention was diverted, it fell over. From these and similar experiences, Orestano concludes that the cerebellum not only presides over the automatic movements in general, but enters largely into the mechanism by which they are produced. The cerebellum relieves the brain of all trouble in regard to habitually automatic actions, with great economy of nerve force and advantage to the higher intellectual functions.

The Nervous System the Anatomic Counterpart of the Vascular System. A. Ruffini.—Apathy's recent discoveries of a fine network of fibrils beyond the supposed terminals, are confirmed and amplified by Ruffini, who is *Libero Docente* of normal histology at the University of Siena. He believes that this discovery completely demolishes the neuron theory, and establishes that the nervous system is the exact anatomic counterpart of the vascular. The terminals should rather be called "expansions," as they are not the terminations of the nerves. He shows that the delicate ultraterminal fibrils of the sensory nerves branch from Meissner's corpuscles and tend always toward the subpapillary layer to which they seem to be limited. They have no myeline sheath and apparently constitute a system independent of the motor fibers. He thinks he has reason to assume that these ultraterminal sensory fibrils communicate with the sympathetic nerve fibers, thus forming a nerve circuit in the sensory sphere, like the circulation in the vascular system or the electric circuit of a battery. He believes that there are two circuits, one through the motor fibers, in which the sympathetic is not concerned, and the other through the fibers and ultraterminal fibrils with the co-operation of the sympathetic, the small corresponding to the pulmonary, and the large to the peripheral, circulation.

Cronica Medica Mexicana (Mexico), April 1.

Life is Proportional to the Lymphogenesis. J. B. Hernandez.—This communication presents arguments to prove that the lymphatic system is the most important of all in the economy, and that the blood is merely a part and a continuation of the lymphatic apparatus. So-called inflammation is lymphatic thrombosis. The lymphatic apparatus is the source of life, and here we must seek for the hidden secret of the cause of existence, the remedy of many diseases and possibly new resources for prolonging life. Potassium iodid has the property of rendering the lymph more fluid when it is abnormally coagulable, and the administration of this substance in innumerable cases of adenitis, bronchitis, incipient pneumonia, catarrh of respiratory and genital organs, rheumatic pains, etc., has promptly cured the patients in twenty-four to seventy-two hours, sometimes with complete restitution in less than a day. The success of this treatment indicates that the disturbances were due to a lymph thrombosis on which develops later, unless checked, the process of ordinary inflammation. Tuberculosis, syphilis and many other affections are attributed by Hernandez to the lymphatic system, and the importance of the latter explains the benefits derived from infusion of salt solution in infections.

Books Received.

Acknowledgement of all books received will be made in this column, and this will be *deemed by us a full equivalent to those* sending them. A selection from these volumes will be *made* for review as dictated by their merits, or in the interest of our readers.

Human Placentation. An Account of the Changes in the Uterine Mucosa and in the Attached Fetal Structures, During Pregnancy. By J. Clarence Webster, B.A., M.D. (Edin.), F.R.C.P.E., F.R.S.E., Professor of Obstetrics and Gynecology in Rush Medical College. With 233 Illustrations. Cloth. Pp. 126. Price, $3.75 net. Chicago: W. T. Keener & Co. 1901.

An Index of Symptoms as a Clew to Diagnosis. By Ralph Winnington *Leftwich, M.D.*, Late Assistant-Physician to the East London Children's Hospital. Second Edition. Cloth. Pp. 267. Price, $2.00. New York: Wm. Wood & Co. 1901.

Twenty-fifth Annual Report of the Managers and Officers of the New Jersey State Hospital at Morris Plains, for the Year Ending Oct. 31, 1900. Paper. Pp. 79. Trenton, N. J.: MacCrellish and Quigley. 1900.

Protection Cuarententaria de *la* Isla de Cuba. Por Arthur H. Glennan, Cirujano del Servicio de Hospitales de Marina, Jefe de Cuarentena de la Isla de Cuba. Paper. Pp. 20. Habana: Gaceta Oficial Press. 1901.

Transactions of the Society of Anesthetists. Vol. III. Pasteboard. Pp. 168. London: The Medical Publishing Co. 1900.

Proceedings of the Pathological Society of Philadelphia. April. Paper. *Pp.* 27. Published by the Society. 1901.

International Clinics. A Quarterly of Clinical Lectures and Especially Prepared Articles on M [illegible] ery, Therapeutics, Obstetrics, Pediatrics, [illegible] Diseases of the Eye, Ear, Nose and Throa [illegible] nterest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, John B. Murphy, M.D., Chicago, Alexander D. Blackader, M.D., Montreal, H. C. Wood, M.D., Philadelphia, T. M. Rotch, M.D., Boston, E. Landolt, M.D., Paris, Thomas G. Morton, M.D., [illegible] Charles H. Reed, M.D., *Philadelphia*, J. W. Ballanty [illegible] and John Harold, M.D., London, with Regular [illegible] Montreal, London, Paris, Leipsic, and Vienna. [illegible] Series, 1901. Cloth. Pp. 312. Price, $2.00. Philadelphia: J. B. Lippincott Co. 1901.

Hygiene and Public Health. By Louis Parkes, M.D., D.P.H., *Lond. Univ., and Henry* Kenwood, M.B., D.P.H., F.C.S., *Fellows of* the S[illegible] and Members of the Board of Examiners. With [illegible] Pp. 732. Price, $3.00. London: H. K. Lewis. [illegible] Blakiston's Son & Co. 1901.

Diseases of the Nose and Throat. By F. De Havilland Hall, M.D., F.R.C.P., Lond., President of the Laryngological Society of London, and Herbert Tilley, M.D., B.D. (Lond.), F.R.C.S., Eng., Surgeon to the Throat Hospital, Golden Square. Second Edition, with 2 Colored Plates and 80 Illustrations. Cloth. Pp. 605. Price, $2.75. London: *H.* K. Lewis. Philadelphia: P. Blakiston's Son & Co.

Lectures on Nasal [illegible] By A. Marmaduke Sheild, M.B. (Camb.), F.R.C.S. [illegible] St. George's Hospital, London. With 1 Colore[illegible] trations in the Text. Cloth. Pp. 106. Price, [illegible] P. Blakiston's Son & Co. 1901.

Experimental Study of Children, Includi[illegible] and Psycho-Physical Measurements of Washin[illegible] and a Bibliography. By Arthur MacDonald, [illegible] *reau of Education.* Paper. Pp. 1300. Washington: Government Printing Office. 1899.

The Feeding of Infants. Home Guide for Modifying Milk. By Joseph E. Winters, M.D., Professor of Diseases of Children, Cornell University Medical College. Cloth. Pp. 47. Price, *$0.50. New* York: E. P. Dutton & Co. 1901.

Proceedings of the Philadelphia County Medical Society. February. Paper. Pp. 50. Price, $0.15 per copy. Philadelphia: Published by the Society.

The Medical Laws Enacted by the Maryland *Legislature from* 1892 to 1896. Paper. Pp. 23.

First Aid to the Injured and Ambulance *Drill. By H. Drinkwater*, M.D., Cloth. Pp. 104. Price, $0.40. Edinburgh and London: Ballantyne, Hanson & Co.

Borough of Invercargill, New Zealand. Standing Orders and By-laws. 1896. Pasteboard. Pp. 125. Invercargill: Southland Times Co.

Constitution of the Medical Club of Philadelphia. Cloth. Pp. 19.

A Handbook *of* Materia Medica, Pharmacy and Therapeutics, Including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Practical Pharmacy, and Minute Directions for Prescription Writing. By Samuel O. L. Potter, A.M., M.D., M.R.C.P., Lond., *Formerly Professor of the Principles* and Practice [illegible] Cooper Medical, College of San Francisco. [illegible] ised and Enlarged. Cloth. Pp. 950. Price, [illegible] *P. Blakiston's* Son & Co. 1901.

Introduction to the Differential Diagnosis of the Separate *Forms of Gall-stone Disease*, Based upon his own Experience Gained in 433 Laparotomies for Gall-stones. By Professor Hans Kehr, Halberstadt. Authorized Translation by William Wotkyns Seymour, A.B. Yale, M.D. Harvard, Formerly Professor of Gynecology in the University *of* Vermont. With an Introduction by Prof. Kehr. Cloth. Pp. 370. Price, $2.50. Philadelphia: P. Blakiston's Son & Co. 1901.

A Compend of Human *Physiology Especially Adapted for the* Use of Medical Students. By Albert P. Brubaker, A.M., M.D., *Adjunct Professor of Physiology* and Hygiene in the Jefferson Medical College. Tenth Edition, Revised and Enlarged. With Illustrations and a Table of Physiologic Constants. Cloth. Pp. 270. Price, $0.80. Philadelphia: P. Blakiston's Son & Co. 1900.

Memoranda *of the Poisons*. By Thomas Hawkes Tanner, M.D., F.L.S., Eighth Revised Edition. *By Henry Leffmann*, A.M., M.D., Professor of Chemistry in the Woman's Medical College of Pennsylvania. Cloth. Pp. 175. *Price*, $0.75. Philadelphia: P. Blakiston's Son & Co. 1901.

Three Thousand Five Hundred Questions on Medical Subjects *Arranged for Self-Examination*. *With the Proper* References to Standard Works in which the Correct Replies will be *Found*. *Third* Edition, Enlarged, With Questions of the State Examining Boards of New York, Pennsylvania and Illinois. Paper. Pp. 230. Price, $0.10. Philadelphia: P. Blakiston's Son & Co. 1901.

The Medical News Pocket Formulary *for* 1901. By *E. Quin* Thornton, M.D., Demonstrator of Therapeutics, Pharmacy, and Materia *Medica* in *the* Jefferson *Medical* College, Philadelphia. Third Edition, Revised and Enlarged. Leather. Pp. 287. Price, $1.50 net. Philadelphia and New York: Lea Brothers & Co. 1901.

Laryngeal Phthisis or Consumption of the Throat. By Richard Lake, F.R.C.S., Surgeon Laryngologist, North London Hospital for Consumption. *With 36 Illustrations*, 21 of which *are* Colored. Cloth. Pp. 94. Price, $2.00. Philadelphia: P. Blakiston's Son & Co. 1901.

International Medical Annual: A Year-Book of Treatment and Practitioner's Index. 1901, Nineteenth Year. Cloth. Pp. 682. Price, $3.00. New York: E. B. Treat & Co.

New Patents.

Patents of interest to Physicians, April 2 and 9:

671,307. Soda-water dispensing fountain. Charles H. Clark, Newark, N. J.

671,337. Ligating forceps. Llewellyn Gibson, Lansing, Mich.

671,067. Surgical instrument. August Heiss, Solingen, Germany.

671,420. Electrotherapeutic *spectacles. Alexander F.* Humphrey, Allegheny, Pa.

671,138. Instrument *for improving* the hearing. Adolphus A. Knudson, Rutherford, N. J., and F. H. Clark, Brooklyn, N. Y.

671,346. *Nasal douche cup.* Ernst G. Lochmann, Leipsic-Gohlis, Germany.

670,998. *Atomizer.* Samuel F. Patterson, Baltimore, Md.

671,247. Medicine spoon. Anna E. Super, Narberth, Pa.

34,312. Design, medicinal tablet. H. P. Ewell and E. A. Everett, Rochester, Mich.

34,313. Design, finger slide and wire holder, for surgical snares. Richard P. McCully, Brooklyn, N. Y.

671,622. [illegible] pound and making same. Arthur Eichengrun, [illegible]

671,477. [illegible] mes Graham. Detroit, Mich.

671,804. [illegible] ederick H. Metcalf, Franklin, Ill.

671,499. Sterilizing apparatus, Austin V. M. Sprague, New York City.

671,500. Door for sterilizing apparatus. Austin V. M. Sprague, Brooklyn, N. Y.

34,337. Design, blank for specula. Charles J. Pilling, Philadelphia, Pa.

34,338. Design, blank for rectal speculum blades. Charles J. Pilling, Philadelphia, Pa.

34,339. Design, blank for speculum blades. Charles J. Pilling, Philadelphia, Pa.

34,340. Design, blank for speculum blades and handles. Charles J. Pilling, Philadelphia, Pa.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, War Department, Washington, D. C., April 11 to 17, 1901, inclusive:

Roger Post Ames, acting asst.-surgeon, leave of absence granted with permission to go beyond sea.

Aaron H. Appel, major and surgeon, U. S. A., leave of absence granted.

Davis Boak, dental surgeon, from [illegible] W. Va., via San Francisco, Cal., to duty in the Division of the Philippines.

William H. Corbusier, major and surgeon, U. S. A., member of an examining board convened at the Army Building, New York City, relieving Major H. S. Kilbourne, surgeon, U. S. A.

Calvin DeWitt, lieutenant-colonel, deputy surgeon-general, U. S. A., relieved from further duty as chief surgeon, Department of Dakota, to report in person to the Surgeon-General of the Army for duty.

Albert H. Eber, captain and asst.surgeon, Vols., recently appointed, leave of absence granted, on the expiration of which he will proceed from St. Clair, Mich., via San Francisco, Cal., to duty in the Division of the Philippines.

Frederick C. Jackson, captain and asst.-surgeon, Vols., previous orders revoked, leave of absence granted on the expiration of which he will proceed to Columbus Barracks, Ohio, for temporary duty.

Ernest K. Johnstone, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to duty in the Division of the Philippines.

Henry S. Kilbourne, major and Surgeon, U. S. A., is detailed member of a board in San Francisco, Cal., for examination of candidates for admission into the Medical Department of the Army, relieving Lieut.-Col. B. F. Pope, deputy surgeon-general, U. S. A.

Clarence E. Lauderdale, dental surgeon, from Naples, N. Y., via San Francisco, Cal., to duty in the Division of the Philippines.

George B. Lawrason, captain and asst.-surgeon, Vols., recently appointed and now in Washington, D. C., to proceed via San Francisco, Cal., for duty in the Division of the Philippines.

James W. Madara, captain and asst.-surgeon, Vols., recently appointed, from Lexington, Ky., via San Francisco, Cal., to duty in the Division of the Philippines.

Francis M. McCallum, captain and asst.-surgeon, U. S. Vols., former orders amended as to direct him to proceed from Fort Reno, Okla., via Jefferson Barracks, Mo., to San Francisco, Cal., en route for service in the Division of the Philippines.

Edgar A. Mearns, major and surgeon, U. S. A., sick leave extended.

Jefferson D. Poindexter, captain and asst.-surgeon, U. S. A., found disqualified physically by an examining board and retired from active service as a major to date from April 13, 1901, the date on which he would have been promoted to that grade by reason of seniority if he had been found qualified.

William B. Summerall, captain and asst.-surgeon, Vols., recently appointed, from the Department of Cuba, via San Francisco, Cal., for duty in the Division of the Philippines.

Alfred A. Woodhull, colonel and assistant Surgeon-General, U. S. A., retired from active service, by operation of law, having reached the age limit of 64 years.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended April 18, 1901:

Surgeon G. T. Vaughan, reassigned to duty in the Marine-Hospital Bureau. April 13, 1901.

P. A. Surgeon H. D. Geddings, directed to proceed to Buffalo, N. Y., for special temporary duty in connection with the installation of the Marine-Hospital Service exhibit at the Pan-American Exposition.

P. A. Surgeon Rupert Blue, directed to proceed to San Francisco, Cal., and report to Surgeon J. H. White for special temporary duty.

Asst.-Surgeon H. B. Parker, directed to proceed to San Francisco, Cal., and report to Surgeon J. H. White for special temporary duty.

Asst.-Surgeon M. H. Foster, two days' leave of absence granted Asst.-Surgeon Foster by Bureau letter of March 11, revoked. April 18, 1901.

Asst.-Surgeon G. H. Corput, directed to proceed to San Francisco, Cal., and report to Surgeon J. H. White for special temporary duty.

Asst.-Surgeon Dunlop Moore, relieved from duty at Port Townsend quarantine, and directed to proceed to San Francisco, Cal., and report to Surgeon J. H. White for special temporary duty.

Asst.-Surgeon T. D. Berry, granted leave of absence for thirty days from May 2. April 13, 1901.

A. A. Surgeon J. C. Ballard, leave of absence granted by Bureau letter of February 4, amended to read six days from April 23.

A. A. Surgeon B. W. Goldsborough, granted leave of absence for seven days. April 13, 1901.

A. A. Surgeon R. H. McGinnis, directed to proceed to St. Augusine, Fla., for special temporary duty. April 12, 1901.

Hospital Steward S. W. Richardson, directed to proceed to Buffalo, N. Y., and report to P. A. Surgeon H. D. Geddings for special temporary duty. April 17, 1901.

Hospital Steward L. P. Hall, directed to proceed to Boston, Mass., and report to medical officer in command for duty and assignment to quarters. April 13, 1901.

APPOINTMENT.

Louis P. Hall, of New York, appointed junior hospital steward in the U. S. Marine-Hospital Service. April 12, 1901.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending April 20, 1901:

P. A. Surgeon N. J. Blackwood, detached from Naval Hospital, Philadelphia, April 17, and ordered to the *Alliance*.

P. A. Surgeon L. Morris, detached from the Naval Academy and ordered to Naval Hospital, Philadelphia, April 17.

Asst.-Surgeon R. E. Peck, ordered to the Pensacola, April 25.

Surgeon J. F. Urie, detached from the *Dolphin*, April 20, and ordered to Marine Recruiting Rendezvous, Boston.

Surgeon E. P. Stone, detached from the Naval Dispensary, Washington, April 19, and ordered to the *Dolphin*.

Surgeon F. Anderson, ordered to the Naval Dispensary, Washington, D. C., April 19.

Surgeon J. E. Gardner, detached from Marine Recruiting Rendezvous, Boston, and ordered to the Naval Hospital Cavite, P. I. April 22.

Asst.-Surgeon C. G. Smith, appointed asst.-surgeon, April 12, 1901.

Surgeon W. F. Arnold, detached from the *New Orleans* and to duty at Olengapo, P. I.

P. A. Surgeon A. Alfred, ordered to duty with Marine Brigade, Cavite, P. I.

Asst.-Surgeon E. H. J. Grow, detached from the *Glacier* and ordered to the *Isla de Luzon*.

Asst.-Surgeon J. Stepp detached from duty with First Regiment Marines, Cavite, and ordered to the *Castine*.

Asst.-Surgeon H. C. Curl, detached from *Castine*, and to Cavite, P. I.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended April 20, 1901:

SMALLPOX—UNITED STATES.

California: San Francisco, March 30-April 13, 5 cases.

District of Columbia: Washington, April 6-13, 1 case.

Florida: Jacksonville, April 6-13, 14 cases.

Illinois: Chicago, April 6-13, 10 cases.

Iowa: Clinton, April 6-13, 1 case.

Kentucky: Lexington, April 6-13, 7 cases; Louisville, April 5, 1 case.

Louisiana: New Orleans, April 6-13, 12 cases, 2 deaths.

[illegible] April 6-13, 1 case.

[illegible] April 6-13, 1 case, 1 death.

[illegible] 6-13, 3 cases; smallpox present at 104 places, April 6-13.

Minnesota: April 6-13, Minneapolis, 8 cases; Winona, 1 case.

Nebraska: Omaha, March 30-April 13, 18 cases.

New Hampshire: Manchester, April 6-13, 3 cases.

New Jersey: Jersey City, March 31- April 7, 7 cases: Newark, April 6-13, 1 death.

New York: New York, April 6-13, 44 cases, 11 deaths.

Ohio: Cincinnati, April 5-12, 1 case: Youngstown, April 6-13, 1 case.

Pennsylvania: April 6-13, Lebanon, 1 case; Pittsburg, 4 cases, 1 death; Steelton, 4 cases.

South Carolina: Charleston, April 8, 1 case.

Tennessee: April 6-13, Memphis, 5 cases; Nashville, 16 cases.

Utah: Salt Lake City, April 6-13, 25 cases.

West Virginia: Huntington, March 23-April 13, 62 cases; Wheeling, April 6-13, 1 case.

Wisconsin: Milwaukee, April 6-13, 1 case.

SMALLPOX—FOREIGN AND INSULAR.

Belgium: Antwerp, March 23-30, 6 cases, 3 deaths.

Brazil: Rio de Janeiro: March 1-15, 13 deaths.

China: Hongkong, March 2-9, 2 cases, 1 death.

France: Paris, March 23-30, 12 deaths.

Gibraltar: March 23-30, 1 case.

Great Britain: Scotland—Dundee, March 23-30, 1 case. Glasgow, March 29-April 5, 10 deaths

India: Bombay, March 12-19, 10 deaths; Calcutta, March 8-16, 151 deaths; Karachi, March 10-17, 14 cases, 5 deaths; Madras, March 9-15, 11 deaths.

Italy: March 23-30, Messina, 1 case: Naples, present.

Mexico: Mexico, March 23-31, 1 death; Vera Cruz, April 6-13, 1 death.

Russia: Moscow, March 16-23, 8 cases; Odessa, March 23-30, 5 cases, 1 death; St. Petersburg, March 16-30, 30 cases, 4 deaths; Warsaw, March 16-23, 7 deaths.

Porto Rico: Ponce, March 30-April 1, 4 cases.

YELLOW FEVER.

Brazil: Rio de Janeiro, March 1-15, 36 cases, 28 deaths.

Colombia: Panama, April 1-8, 7 cases, 1 death.

Costa Rica, Port Limon, April 5, 1 case.

CHOLERA.

India: Bombay, March 12-19, 3 deaths; Calcutta, March 2-16, 43 deaths; Madras, March 8-16, 3 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, April 6-13, 2 cases, 2 deaths.

PLAGUE—FOREIGN.

Africa: Cape Town, to March 9, 100 cases, 27 deaths.

Brazil: Rio de Janeiro, March 1-15, 1 death.

China: Hongkong, March 2-9, 15 deaths.

India: Bombay, March 12-19, 1,203 deaths; Calcutta, March 8-16, 819 deaths; Karachi, March 10-17, 163 cases, 126 deaths; Madras, March 9-15, 1 case.

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Original Articles.

THE DIAGNOSIS AND TREATMENT OF INJURIES OF THE HEAD.*

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MINNEAPOLIS, MINN.

Injuries of the head are frequent, exceedingly variable in character, notably uncertain of prognosis, and often disastrous in their immediate or remote results. There is considerable difficulty in classifying serious lesions of this region to the greatest practical advantage. The usual tendency to place special emphasis upon the presence or absence of fracture of the bones is misleading clinically, because, for the most part, fracture when recognizable is of entirely secondary importance to injury of the cranial contents, because fracture is not always recognizable or treatable, and because in any event the treatment of skull fractures has little in common with that of other bones.

It is exceedingly helpful to study head injuries from a distinctly clinical standpoint somewhat after the manner in vogue in the presence of injuries to the other great cavities, the adbomen and thorax. In the one case as in the others, the chief rôle of treatment lies in the prevention of infection and the control of hemorrhage, together with the removal of the sources of present or future cortical irritation. That diagnosis which is sufficient to point the way to the most efficient treatment is alone of paramount importance; the exact recognition of conditions about which nothing material may be done is more or less vain, particularly if it divert the attention from a single detail of practical succor. Hence, that practical diagnosis which promptly recognizes the indications for action, or appreciates the negative signs which counsel masterly inactivity, is the most utile.

It is my present purpose to call attention to some perhaps well known, but sometimes forgotten, precepts, and to elicit discussion upon some still unsettled problems in the technique of opening and closing the skull.

The first duty in all head injuries is a careful and systematic examination. For this purpose it is always desirable, and usually necessary, to clip or shave the whole head. If there has been extensive wound of the soft parts, ever so slight a penetrating wound or fracture of the skull, shaving the whole head should be insisted on as the first necessity. The most astounding blunders in diagnosis as well as barbarous transgressions of the laws of asepsis are still occasionally observed. I have known a boy to be carted about and *x*-rayed in two or three planes, at great trouble, expense and risk, when a few moments subsequent use of the razor showed the small bullet to have emerged three-fourths of an inch from the wound of entrance.

All points of contusion, ecchymosis or hematoma, should be carefully noted and examined. Two conditions need special consideration: 1. The natural irregularities of the skull. Such depressions may be mistaken for depressed fractures, or, much more frequently, in damage cases are claimed as such later on. If the head has been shaven and carefully examined at the time of accident such claims may often be much more easily refuted. 2. The embossments and tumefactions caused by extracranial effusions of blood may lead to errors of diagnosis unless carefully studied. Such effusions may be located superficially in the cellulo-fatty tissue, i. e., subsutaneously, or deeply. The subcutaneous boss is sharply circumscribed. If small in quantity and intimately infiltrated into the cellulo-fatty tissue it is remarkably hard, but if the quantity be large so as to dissect up the tissues, it is soft and fluctuating. But this fluctuation is superficial and readily distinguished from that of a subaponeurotic effusion. The bosses produced by subaponeurotic and subperiosteal effusions are more diffuse, their hardness more abrupt and fluctuation, if present, deep. Usually these effusions give rise to little trouble in diagnosis, but under certain conditions they may quite remarkably simulate fracture with depression. First in the early history of the case, when there is at once infiltration into the subcutaneous tissues and also a deep effusion, one finds the boss from the start hard on the periphery and soft in the center, giving the appearance of a distinctly depressed area of bone. I have known this condition in two instances to mislead the examiner into a diagnosis of depressed fracture; continued pressure on the hard rim, however, enables the finger to recognize the subjacent bone in its normal plane with that of the apparently depressed region. Second, at a later period a deep-seated embossment may undergo central softening while the periphery remains hard.

A careful study of the discharges of blood and serum from the ear or nose, the behavior of ecchymosis of the mastoid region, of the conjunctivæ, of the pharynx, etc., and the disturbance of function of cranial nerves, is important. In case of external wound or probable fracture at the base communicating with the exterior, the greatest possible antiseptic precautions should be at once instituted. It is well as a routine practice to cleanse the various cavities, exposing the brain to infection when fracture communicating with them is thought possible. The nose should be douched with boric acid solution, and nostrils lightly plugged with sterile cotton. The mouth and pharynx need to be kept cleansed by mild antiseptic washes. While all this may sound stale, we are frequently reminded at the bedside that the average practitioner is still far from alive to the necessity of prompt and constant attention to these details in head injuries. Men who exhibit considerable respect for the abdomen, aseptically speaking, forget the needs of the cranial cavity, especially if there be no glaring cranial wound.

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* Read at the Annual Meeting of the American Academy of Railway Surgeons, held at St. Paul, Minn., Sept. 5 and 6, 1900.

If there be scalp wound, compound fracture, or any indication for operation, the scalp must be cleansed in the most thorough manner possible. It should be thoroughly scrubbed with hot water and soap; then with 1 to 20 chlorinated soda, rinsed off with sterile water; rescrubbed with 1 to 1000 bichlorid and covered with a mild, moist bichlorid gauze dressing; wounds of the soft part are explored, perhaps enlarged, carefully irrigated and cleansed, and if lacerated and contused, trimmed with scissors in a surgical manner.

If there is no indication for immediate operative interference, the patient should be placed under the care of a good nurse, who may watch and record the pulse, temperature, respiration and movements of the patient. He should be placed in a warm bed with the head low. During the early stages of concussion, warmth to the feet, counter-irritation to the epigastrium and cardia are useful. If the pulse becomes bad, strychnia or atropin may be administered. In the stage of excitement which usually follows the period of depression, great restlessness, headache, etc., the bromids, or even a little morphin, is useful. However, in this class of injuries the first and greatest duty is rigid asepsis. The second is the securing of a careful consecutive history of the progress of the case from the time of the injury, and this should be reduced to writing as it transpires and not left to guess-work and memory. And third, the observation of certain general precepts, among which may be stated: The recumbent position, with absence of noise and excitement, should be kept until the symptoms have well resolved. All cases of serious head injury should be carefully observed for at least a month. The prognosis should be guarded, and in cases liable to litigation, it should be guarded both ways. Persons looking for damages are liable to store up all the symptoms and loose talk of the doctors and make the most of it. It is as unwise to discuss all the possible calamities that might follow a blow on the head, as to assure such a patient when he wakes out of the concussion that he is all right. The better course for all concerned is to observe keenly until the case is cleared up; state only the evident facts and prophesy not.

Having made such a local examination and thrown out the necessary lines of defense, so to speak, he is in a position to with safety assume the offensive in case of necessity. While he may still often be far from clear as to the extent, seriousness and outcome of the case, so far as his activity is concerned, he finds it already falls, or in its further development will fall, into one of the following four classes, or one of their subclasses:

Injuries Without Important Local Signs or Definite Focal Symptoms.—The following instance may be taken as somewhat typical in a general way of this class, though perhaps unusually severe:

P. W. D., a switchman, aged 38, was coupling cars, Dec. 3, 1898, when the draw-pin broke and a piece of it struck him with great force on the top of his head. He fell unconscious and was removed at once to the hospital, reaching there at 10 a.m. in a semicomatose condition, his pulse 72, rectal temperature 98 degrees. On my arrival at 12:30 he was taken to the operating-room; the head completely shaved and cleansed; the ears cleansed and examined, no discharge or injury found, but insufflated with boric acid and plugged with cotton. There was a contusion 1½ inches long and about one-half that breadth at the vertex, in the medial line, the most careful examination revealing no evidences of fracture. The abrasion was dressed with boric acid powder, the head bandaged and the patient returned to bed. He vomited twice during the day. There was retention of urine requiring the use of the catheter for fourteen days, or till December 17. From the time I saw him, at 12 m., December 3, till December 14, or eleven days, he remained in a semicomatose condition most of the time, i. e., he slept or snored most of the time when left alone, but at times was restless and flopped about and had to be strapped in the bed. When attempts were made to catheterize him he became very violent, insomuch that it took several persons to hold him, and once my assistant had to give chloroform to draw the urine. During these eleven days he spoke twice—on the second and ninth day he asked for a drink.

His temperature, a trifle subnormal at first, after the second day rose slightly above normal occasionally, but fluctuated between 97.5 and 100 F. The pulse on the third day reached the lowest point, of 42; during the next four days it varied between 42 and 60. During the second week the pulse was still more variable, some days varying from 58 to 85. On the fourth day he would sit up and take milk when told to do so, and he occasionally seemed to vaguely understand some things that were said to him, but he did not regain consciousness to know where he was or what was wrong until December 17, two weeks after the injury. December 10, at 9:30, he had a convulsion which was general and lasted but about two minutes; also a similar one December 12. Several uranalyses showed nothing of special interest, unless some increased indican reaction. From December 15 to 22, his condition gradually cleared up and he was taken home on the latter date. He was up and about the house, complaining of some headache, weakness and dizziness, gradually improving until January 14, when he came to the office, and resumed work a week later, or seven weeks after the accident.

I will not at this time discuss the condition further than to say that at the first examination, my diagnosis might be said to have been the negative one: Severe head injury, no external wound, no focal cerebral symptoms, no indication for operation. During the further watching through two weeks with rational attention to symptoms, nothing occurred to remove the case from this category until spontaneous recovery.

If time permitted, many cases might be related as starting out in this class, but which, after a few hours or a few days, variously deviated in the most diverse courses. Of course the development of localized cerebral symptoms removes the case to another class and indicates our surgical duty, but until such indications arise the treatment must be non-operative, let the outcome be what it may. To open the head under such conditions is to go hit-or-miss, quite as likely to do harm as to do good, and is on a par with the generalship which would lead an army blindly into an unknown country and against an enemy of which nothing was known save that one of some kind existed somewhere. In the one case as in the other, chance may now and then approve the result, but the rule must be disaster, and the practice is not scientific.

There is Fracture of the Vault without Wound.—These cases may be considered under the following subdivisions:

1. There are local signs—i. e., of fracture—but no focal cerebral symptoms. The same methodical examination of the head indicates fracture. Sometimes a fis-

sure may be detected by the finger, or a point may be felt which yields under the finger pressure, or local tenderness and the reaction of defense may convince the surgeon that fracture is present. Yet, however clear the evidence of fracture, excepting only a considerable depression over the motor areas, there is no indication for immediate operation. Wait and watch developments just as in the previous instance; if, as the concussion dissipates, giving place to a sort of hebetude with ability to move the limbs at command, the facial expression regular, speech slow but correct, in short, no localized phenomena, the treatment becomes identical with that outlined above.

If, however, the examination has disclosed a depression, there is longer but little difference of opinion as to the proper course. It may well be doubted whether a moderate depression of a considerable area of skull is of itself a serious matter. Indeed, the depression of a small area is more often accompanied with sources of irritating mischief than the slight flattening of a considerable area. But in either event it is the possibility of displacements of fragments of the internal table, injuries to brain and membranes, and probable blood-clots that render the advice to always trephine in the presence of decided depression wise. Under careful and judicious operating, with proper facilities for rigid asepsis, even suspected depression had best be cleared up by exploratory incision and actual depression always relieved by trephining. Under less perfect conditions for operating, some slighter depressions unaccompanied by external wound or localized cerebral symptoms are not of such imperative importance as to justify hasty resort to opening the skull. The condition can wait; a secondary operation under perfect conditions is preferable to the slightest risk of infection.

2. There are local signs of simple fracture with focal cerebral symptoms. These are the cases of real urgency. The necessity for operative interference is clear and unmistakable. It only remains to interpret the symptoms and decide upon the operative technique. There are four sets of cases falling under this subclass:

a. The focal symptoms are on the side opposite the cranial lesion. There is aphasia, or hemiplegia, or a monoplegia of the upper or lower extremity. To trephine at the site of injury including the motor area indicated by the focal symptoms, is the clear and sole indication.

b. The focal symptoms are on the *same* side as the cranial lesion. Here the indications are not quite as clear in detail. Lejars advises first trephining at the site of injury, which may, he says, discover conditions dispensing with further intervention; if not, he then advises trephining in the zone indicated by the focal symptoms. In the cases of this class falling under my observation I have trephined at once on the side opposite the injury, found and removed the clot and ligated the vessel, and relieved the patient without exploring at the point of injury at all. If there were *manifest cause* to open at the point of injury, it may be granted that it were well to do that first, but it should be remembered that in this class of injury the mischief is *apt to* be chiefly on the opposite side of the skull, with perhaps none, or but slight, fissure at the point of receipt of the injury. If the force is such as to crush in the skull at the point of injury, *contre-coup* symptoms are not often observed. The experiments of Felizet show the rationale of these so-called *contre-coup* injuries, and why, though the skull is sometimes fractured on the opposite side, much more frequently lesions of the cranial contents take place there. On account of the elasticity of the skull as a whole, compression of one side by a blow causes a corresponding falling of the opposite pole. Being less elastic and more friable than bone, the brain and membranes are more liable to laceration. It would seem the most rational course in these cases to trephine at the point indicated by the focal symptoms, and open at the site of injury only in case of clear indications for so doing.

c. There is crossed paralysis, facial paralysis on the same side, and mono- or hemiplegia on the side opposite to the site of injury. The indication remains to trephine over the motor area implicated, though the prognosis is bad, as the facial paralysis indicates an extension of the fissure to the base, involving the temporal bone.

d. The symptoms are associated in a complex fashion, and without connection with any determinable cranial lesion. There is probably extensive brain contusion, and the prognosis is always obscure. There is no rational basis for operative interference, and the treatment must be along the general lines indicated in the first category.

3. With, or more frequently without, local signs of fracture, there arise localized cerebral symptoms of compression indicating, most frequently, rupture of the *middle meningeal*.

In these injuries often the patient has not been rendered entirely unconscious or has remained so but a few moments. He may have been able to get up and walk about some. In any event, after the initial stupor has passed off, there is seen to be no paralysis. If now, after such a free interval, whether of some minutes' or some hours' duration, a slowly progressive hemiplegia develops, renewed loss of consciousness, depressed or stertorous respiration, perhaps dilatation of the pupil of the injured side, the indication is clear to at once open the skull at the proper point, evacuate the compressing clots and seek to control the hemorrhage. At the operation one of three conditions may confront us: *a*. By far most commonly an extradural hemorrhage from the middle meningeal, and generally from the anterior branch. This is the most satisfactory condition, because if promptly recognized and the artery tied or controlled, the brain is ordinarily not injured, and the prognosis good. *b*. If on opening the skull at the point of election, no extradural clot is found, but the dura is tense and bulging into the wound, perhaps showing a dark bluish color, on opening the dura a subdural clot is found, the clot should be removed with more care and with less attempt to follow up the thin diffuse margins, which may injure the brain or excite grave cortical hemorrhage. *c*. It may be, after the dura is opened, that but a thin layer of blood covers a bulging dark cortex, indicating an intracerebral hematoma, in which case the cortex must be incised, the clots evacuated; if bleeding continues, tamponade of the cavity. The prognosis in the latter, particularly the last, variety of intracranial hemorrhage is most grave, and the treatment far less satisfactory than in the extradural variety.

There are Signs of Fracture of the Base, but no localized Cerebral Symptoms.—Ecchymoses appearing without other cause beneath the conjunctivæ and eyelids, the mucosa of the pharynx, or in the mastoid region, are often quite pathognomonic of fracture through the respective fossæ. Hemorrhage from the ear, nose or pharynx may be cautiously taken as evidence of fracture, when an extracranial source of the bleeding is fairly excluded, and the less frequent escape of cerebrospinal fluid, when demonstrated, is conclusive. The paralysis of cranial nerves is also frequently sufficiently characteristic in its course to justify alone or in connection with other symptoms, the diagnosis of fracture.

Slight fractures of the base of the skull probably often occur without any diagnostic symptoms. I find many physicians look upon fracture of the base as almost necessarily fatal, and point to eventual recovery as proof that the diagnosis of fracture was erroneous. Even Gross[1] says: "Fracture of the base, if at all severe, is seldom followed by recovery. I myself, out of at least a dozen instances of this kind, witnessed only one in which the patient was saved."

I can recall at least half a dozen instances in which the evidences of fracture were clear, and yet the patients evidently recovered. In one case in particular, a large array of surgeons and specialists agreed with me and reported to the railway company that the patient would die, yet he finally recovered. There is no reason why fissure running into or across the base of the skull should necessarily be fatal, and under proper care and treatment many such cases do recover. Deroubaix[2] says: "The prognosis in fracture of the base is much more favorable than formerly taught; some surgeons of the present day even assert that there are more recoveries than deaths."

Next to severe concussion and brain laceration, the chief causes of death are hemorrhage and infection. Operative interference has never in my experience been of avail in these cases, i. e., in the absence of focal brain symptoms, though the condition would seem to indicate intracranial pressure probably from hemorrhage. In a man who remained unconscious at the end of ten days, I trephined low down in the temporal region and removed some clots from the middle fossa. He regained consciousness somewhat for several days, but finally died and the autopsy showed deep inaccessible brain abscess from infection through the ethmoid.

In short, for the most part, the preventable deaths from these injuries are due to infection. If the concussion and brain contusion has not been sufficient to destroy life, these patients would survive if infection, usually through the nose and ear, could be prevented. Unfortunately our best endeavors are, in the nature of the case, very imperfect, since anything like a sterilization of the nasal, pharyngeal and aural cavities is entirely impracticable. None the less, a careful initial cleansing and continued care of the ear, nose and throat in all fractures of the base is perhaps not yet sufficiently practiced.

Occasionally a brain abscess develops later and may be located by inference or by symptoms, and opened with some prospects of success. It is sometimes several months after the injury before the symptoms of abscess arise. The three instances falling under my observation did not succeed because there were other foci, discovered only at the autopsy, which could not be located or reached. In other words, infection in fractures of the base is for the most part too acute and diffuse or too deep-seated to be relieved by operation, and even the rarer chronic and localized suppurations arising from this cause are apt to present either difficulty in localization or multiple foci so that after the surgeon has been fortunate enough to open and drain a pus cavity, he finds at the autopsy that one or more others have escaped him.

Fracture of the Vault with Wound.—This condition always calls for more or less operative interference. In all cases the whole head should be rendered as aseptic as possible, the wound cleansed and enlarged sufficiently to well explore the seat of fracture. These injuries are so various that only general principles can be enunciated, but it may be asserted that it is well to open the skull sufficiently to remove all fragments, clots and foreign bodies and to elevate depressed areas.

In this class of injuries the head has already been more or less opened for us, and it often remains only to carefully pick out the crushed pieces with forceps and elevator and smooth up rough edges and spicula with rongeur or chisel. If the breach in the cranial vault is less complete, a small trephine hole partly placed on the sound border gives us *entré* to the depressed area. In opening these already crushed crania, the elevator, chisel, small trephine and rongeur forceps are quite sufficient. There appears to be no practical way yet devised to avoid the loss of the protective bony wall in these cases, at least primarily. Whatever may be said of autoplasty or heteroplasty, it will, I think, be conceded that such operations are not often practicable in traumatic cases unless as secondary procedures. The conditions are not favorable to the perfect healing in of a foreign body, and the patient suffering from a recent skull fracture extensive enough to call for remedy of the defect is in no condition for a prolonged autoplastic procedure. Furthermore, experimental studies and practical results leave it very open to doubt whether any of these methods fulfil their real practical object, viz., avoidance of cortical irritation, any better on the whole than simple aseptic healing without irritation.

Our technique in intracranial surgery is still extremely defective in two regards: 1, in not yet having perfected an easy, rapid and safe method of opening the skull; 2, in our inability to prevent a more or less welding of all the tissues, brain, membranes and scalp into one scar, which often proves a source of cortical irritation.

While large bony defects of the cranial vault are not without their very manifest inconveniences, it may be doubted whether the loss of bone is per se the cause of irritating symptoms. It is quite clearly the cohesion of the cortex and superficial parts that is most objectionable. Some years ago Park advised the use of gold leaf between the injured cortex and the dura. I believe he has since found it impracticable. In two very favorable non-traumatic cases I employed it. Although both ran a perfectly aseptic course, there soon—three and four weeks—appeared a fluctuating, painful swelling which had to be opened, evacuating a quantity of serum, and this continued to reopen until the gold foil was wholly removed; I therefore ceased further trial of it. Minter[3] reports similar results. Some one proposed the use of egg membrane as an absorbable material for this purpose, and I also made use of it twice in trephining for traumatic epilepsy, with precisely similar results. The wounds healed perfectly, but at the end of two weeks a painful swelling appeared, and the egg membrane had to be removed. In one case the wound was re-opened, the serum evacuated and, as I supposed, the egg membrane all removed, the wound reclosed and the patient was sent home much improved, but as is usual in such cases, *not* entirely cured of his epilepsy. A swelling reappeared under the scalp, and the family doctor some weeks later opened it and another considerable piece of egg membrane came out, after which the wound permanently closed.

McKosh[4] reports a case which he trephined for epilepsy in which in the center of a mass of dense connective tissue he found some blackish particles, which proved on examination to be fragments of rubber—the remains of rubber tissue put in at a previous operation to prevent adhesion of the cortex. The scar tissue surrounding it, which was removed, represented a tumor the size of a walnut.

From my own brief experience and such reports as have come to my notice I am convinced that the insertion of foreign substances between the dura and cortex is wholly objectionable. That far from preventing adhesions it usually increases them by the irritation which it excites, even under the most favorable conditions.

One object of removing blood clots is to prevent cyst formation, and foreign substances would appear more objectionable than blood, and I think experience has proven them to be so. So far as adhesions of the cortex and dura are concerned we may safely rely, for the best possible results, on securing the most rapid aseptic healing, after the greatest possible conserving of the dura, and, as far as possible, stitching it carefully together with fine catgut. In closing the head, as in closing the abdomen, the best results follow the most accurate approximation of the different tissues, layer by layer. But where, as in the present case, the bone is necessarily fragmented and wholly removed from its vascular connections the defect may as well be left, at least for the present, but approximating the other structures as accurately as possible and securing healing with the least excitation of connective tissue. When the defect is small and the periosteum preserved, especially in children, bony repair takes place.

Some have laid stress on replacing trephine buttons, or even advised covering the defect with a mosaic of the fragments removed, and it is true that they sometimes appear to succeed. However, there are two objections to the practice: 1. Especially in traumatic cases these pieces often undergo necrosis and have to be removed, and when they thus delay union they excite connective tissue proliferation and, in addition to failing in their object, leave a less favorable cicatrix. 2. The histologic observations, after bone implantation, by Barth[5] and others show that pieces of bone which have been separated entirely from their anatomical surroundings, when returned to their former place, or placed in another defect in the human skeleton, indeed may grow, yet in all cases undergo necrosis.

The trephine button, about the fifth day, is found adherent to the dura by a deposit of fibrin, while the chinks and spaces about it are filled with fibrin. The nuclei of the transplanted bone cells appear as empty spaces or are seen to undergo degeneration. Now an active proliferation of connective tissue begins over the periosteum and dura mater; young granulation tissue grows into the spaces of the dead bone button, absorbs the fibrin coagulum, incloses in its meshes and vascularizes the dead bone as a porous foreign body. Almost immediately—sometimes after the seventh day—a deposit of new bone over the dura mater begins, which is deposited in lamellæ through the dead bone. It is this constant deposit of new bone through the dead button that is peculiar to the first few weeks. This goes on steadily from week to week as the dead bone becomes replaced by the living; it goes on without any anatomic appearance of the old bone being absorbed; it much resembles cartilaginous bone formations as observed in fetal long bones. According to B., this process is found in all cases where the button is not cast off as a sequestrum; it heals thus only when it fits well into the defect; the whole process takes perhaps two months, under favorable circumstances; he replaced buttons after maceration in potash and staining with boiling carmin; they healed in the same manner as fresh implanted pieces.

Von Eiselsberg, Fraenkel and others appear to hold the same views. The latter claims that all organic material becomes adherent to the dura and that only inorganic material, into which granulations from the dura can not enter, prevent adhesion. From the time of Paré attempts have occasionally been made to implant metallic plates into skull defects, and gold, silver, platinum, aluminum and many other substances have been tried. Of late years interest in the matter has revived and the practice apparently increased. The general opinion appears to be that celluloid is the best material. Among the good qualities of the material are cheapness, lightness, ease of shaping with scissors and its being a relatively poor conductor of heat. Dr. Curtiss suggests that aluminum plates might be absorbed in the course of years under the alkalinity of the blood serum. It is not, however, my intention to go deeply into this question, since I believe the use of such plates is not as yet to be advised in primary traumatic cases, and, in any case, it is still an open question whether they really accomplish their main object of preventing irritation of the cortex. Hence it has appeared to me that the best results in cases where the skull is crushed in by accident are likely to follow the greatest possible conservation of bone, periosteum and membranes consistent with efficient work, with accurate adjustment of the soft parts, especially of the dura and the periosteum, and rapid aseptic healing. In operating through an intact or simply fissured skull, however, as for rupture of the meningeal artery, the matter is quite different. Under such conditions the trend of surgical opinion is strongly toward a more ideal opening and closure of the cranium, and the use of trephines, rongeurs, etc., which sacrifice considerable areas of bone and slowly produce, often, quite inefficient access to the cavity, are deprecated. In such cases osteoplastic resections of large bone flaps (Wagner, 1889) has many advantages, and is strongly to be advised. It is more easy and certain to find and to ligate vessels and to remove clots by this method. But, of probably far greater moment, it is the only method which fully preserves the integrity of the skull and prevents adhesion of the dura. It is certainly the ideal method of closing the skull. As yet the chief difficulty lies in the technique of executing it skilfully.

There is litle question but the chisel is the most practicable instrument for making these bone flaps. When one has become skilful in its use the skull can be opened accurately with great rapidity to almost any desired extent, and the tools are cheap, portable and easily kept in order. One has only to perfect himself into a good workman, and he has always full command of the situation. Unfortunately there is a great objection to this otherwise facile and simple instrument for opening the cranium. The concussion of the mallet is more or less dangerous, especially when intracranial pressure exists, so that a majority of the most experienced in brain surgery, including Horsley and Keen, protest against its use. Various saws have been invented for this purpose, of which Van Arsdale's appears to be theoretically very perfect. While I have not perhaps had sufficient experience with this apparatus to speak dogmatically upon its worth, I have worked with it sufficiently to discover some of its defects, and to fear that I shall never be able to learn to use it with satisfaction. In the first place, the apparatus is quite complicated and expensive, an objection of no great consequence if the practical excellence of its work were commensurate with the outlay and care. The vibrations of the necessarily rather stiff cable render the saw hard to direct with precision, but it is the tendency of the saw to get stuck in the circular groove in the bone, being removed with great difficulty, that I have found the most discouraging. While very ingenious the saw would appear entirely unnecessarily complicated in constructing it to cut in a circle. There is no especial reason for making osteoplastic flaps circular, in fact, rectilinear flaps are I believe entirely preferable, and I believe Van Arsdale's saw, if simplified to cut a plain straight line, may prove to be the instrument for which we are looking. In any event there is little doubt that the difficulties of osteoplastic resection of the skull will be surmounted. In Germany, where for a time the chisel was so much used, there appears to be a tendency to combine the use of circular saws and chisel, sawing through the outer table and the diploe and finishing with the chisel. In my limited experience on the living skull and the cadaver, I have found it much easier to make the flap rectilinear; then with a very small trephine four holes are made at the respective angles, after which the flap may be completed by the chisel, or by a wire saw passed from one hole to the other between the skull and the dura and cutting from within outward.

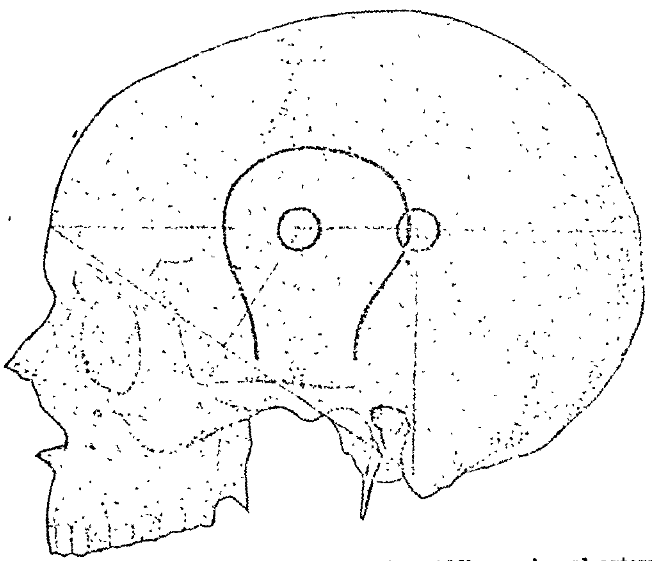

Diagram showing the command of the middle meningeal artery by Wagner's osteoplastic resection, also the method of locating the anterior and posterior branches of the artery in trephining according to Steiner.

Of course every method yet devised has its advantages and disadvantages. The only disadvantage of Gigli's wire saw is in carrying it from one opening to another and getting it buried in the bone without wounding the dura. This danger is not greater, and as easily overcome, as the liability to similar accidents by other methods. Its advantages I think on the whole clearly distance all other instruments as yet devised: 1, exceeding simplicity and cheapness; 2, very considerable rapidity; 3, the saw-cut is exceedingly fine, doubtless the finest that can be made by any method, and as will be seen by the specimen presented, may be cut as beveled as desired so that the resected piece of bone fits back more accurately than if cut by any other method with which I am acquainted.

By the osteoplastic method of operating for intracranial hemorrhage, the matter of localization becomes very simple. A flap with its base just above the zygomatic arch and its summit rising above the inferior temporal ridge, amply commands both branches of the middle meningeal artery, and can scarcely fail to give us the desired access to all operative cases of intracranial hemorrhage. By going well down toward the zygomatic arch, it gives the best command of the middle fossa, or if symptoms indicate pressure on the lower portion of the motor area, it may be placed a little higher. However, it is well to locate and mark by some of the common methods the probable location of the vessels, as it reassures the operator in marking out his flap. The method of Steiner is very simple and as accurate as any. He draws a line from the middle of the glabella to the apex of the mastoid process and erects a perpendicular at the center of the line. Where the latter intersects a third line, passing horizontally through the glabella, there is the anterior branch of the middle meningeal; where a vertical line passing in front of the mastoid intersects the horizontal line, there is the posterior branch.

In emergency surgery, simplicity of methods both in diagnosis and operative technique are of great importance. The fissure of Rolando is readily located by finding its superior end at one-half inch behind half way from the nasal fossa to the occipital protuberance, from whence it runs downward and forward at an angle of 67.5 degrees for a distance of 3⅜ inches. This angle is readily measured by Chene's method of folding a square piece of paper so as to get an angle of 45 degrees, one of the leaves being again folded so as to get an angle of 22.5, which, added to the first, marks an angle of 67.5 degrees. This paper applied to the skull enables us to trace the Rolandic fissure with sufficient accuracy for operative purposes by the large openings now in vogue.

REFERENCES.

1. Gross: System of Surg., vol. ii, p. 62.
2. Archives Med. Belges, June, 1892.
3. Tiffany: Technique of Intercranial Surgery; Annals of Surg., vol. xxvi, 1897, p. 307.
4. McKosh, A. J.: Trephining for Epilepsy; Ibid., vol. xxvii, 1898, p. 670.
5. Chirurgie Opératoire du Système Nerveux, Chipault.
6. Chirurdie d'urgence, Lejars.
7. Meyer, W.: Injuries of the Head; Annals of Surg., vol. xxi, 1895, p. 310.
8. Van Arsdale, W. W.: Technique of Temporary Resection of the Skull, Etc.; Ibid., vol. xxiv, 1896, p. 465.
9. Nancrede: Operation of Trephining for Jacksonian Focal Epilepsy; Ibid., vol. xxiv, p. 122.
10. Von Eislesberg, of Utrecht: Treatment of Bony Defects of the Skull.
11. Horsley, V.: Points in the Operative Treatment of Cerebral Tumors; Med. Jour., Dec. 23, 1893.
12. Minter, H., of Buffalo: Head Injuries, Contributions to Study of; vol. xix, p. 539.
13. Barth, A.: Marburg; Histological Observations After Bone Implantation; Verh. der Deutsch. Gesellschaft f. Chir., xx Kong. (Quoted in Annals of Surg., vol. xviii, p. 460.)
14. Stenzel: Trephining for Hemorrhage After Fracture of the *Base of the Skull; Annals of Surg., vol. xviii, p. 460.*
15. D'Antona: A New Method of Determining Cranial Topography.
16. Osteoplastic Operation for Bony Defect of the Cranium, Verh. der Deutsch Gesellsch. f. Chir., xx Kong., 1891. (Quoted in Annals of Surg., vol. xv, p. 472.)

THE RELATION AND POSITION OF PELVIC ORGANS. EXAMINATION OF PATIENTS.

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While we know definitely the approximate size and exact structure of the various organs of the pelvis, there is still a great deal of cloudiness and misunderstanding about the true relations and positions of these organs. As an example, one will frequently hear it stated that there is no such thing as a normal position, or even an approximate position of the uterus! If the uterus were an unimportant organ, if it did not have the highest function to perform that is required of any organ, we might, at first thought, think that this one organ did not have a place in which it might be considered at home. Inasmuch, however, as it is such an important organ, we have a right to assume that it possesses a place, and that it is not simply cast into the pelvis, anywhere, and allowed to occupy any position not already occupied by a functionating bladder or rectum. A prominent gynecologist, in discussing this subject recently, considered it necessary to give the bladder and rectum right of way over this important organ. If it were necessary and reasonable for nature to make such a bungling job of her handiwork, she would have done so, but when it is not necessary nor reasonable, we have a right to assume that she has not. Here it is not reasonable, and she has constructed her organs in such a way that each may normally functionate without interfering with the other. I investigated this subject with great care in the early part of my practice, and made it the basis of my inaugural thesis for entrance into the Chicago Gynecological Society, in 1885. After studying the works of Schultz, Fritsch, and Savage, and after making a minute comparison of the frozen sections of Henle, Fürst, Braune, Heitzmann, Hart, Piragoff, Ruedinger, investigating the theories of Emmet, Garrigues, and others, I arrived at a conclusion which seemed to me inevitable, and, too, which seemed to put me in accord with what nature would be likely to do if she were able. At that time I advanced my opinions on the subject, and subsequently on observing the position of the uterus in over 1000 laparotomies, and in the bimanual examination of many others, I am convinced that my opinions expressed in my early thesis were substantially correct, and am prepared to announce that they were substantially based on facts.

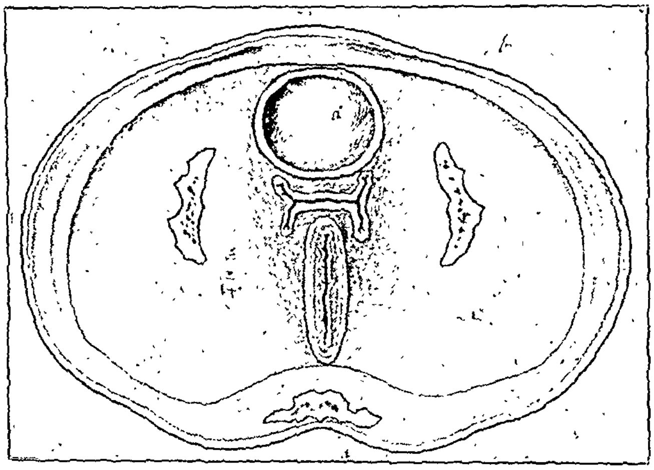

Fig. 1.—*a*, Bladder; *b*, vagina; *c*, rectum; *d*, sacrum.

The bladder and rectum, contrary to the belief of many writers, perform their normal functions without interfering with the position of the uterus. They dilate and contract in functionating, without pushing the uterus into different locations about the pelvis. A simple fact in their methods of collapse and distension makes this possible. By consulting the simple schematic illustration of Henley, of a horizontal section of the pelvic floor, and making that apply to a section of the pelvis at the cervix and bladder level (Fig. 1), you will find that the bladder and rectum each collapse with the long diameter anteroposteriorly, so that they both occupy as much of the anteroposterior space of the pelvis when they are empty as they can possibly do when they are normally distended. This obviously makes it unnecessary for either organ to interfere with the uterus, as far as the anteroposterior space of the pelvis is concerned, as long as the normal action is maintained.

If you will consult Fig. 2, which represents the normal relation of the pelvic organs with the rectum and bladder empty, according to my ideas, you will notice that the free upper wall of the bladder does not lie in contact with the anterior wall of the uterus. That space, when not occupied with the bladder, normally distended, is filled with light, constantly moving, small intestines. These act as movable upholstery, surround the uterus on all sides, equalizing the abdominal pressure, and fill the necessary vacuum. If the uterus rested on the free superior wall of the bladder, as represented in Fig. 3, that important organ would never have a minute of equilibrium, but would constantly be moving about as the bladder filled and emptied, and as the cervix would remain comparatively stationary, the intra-abdominal pressure would impinge on a different portion of the uterus almost every minute of the day. At the time when the bladder would be empty, the intra-abdominal pressure would be exerted on the whole posterior portion of the body of the uterus in such a way as to positively interfere with the normal distension of the bladder.

My reasons for believing that the uterus occupies, approximately, the position that I have depicted in the drawing, Fig. 2, are the following:

1. Because it is the only position that the uterus can occupy in which it would not be subject to constant, important changes in position, with the normal changes in the bladder and rectum.

2. In this position the intra-abdominal pressure impinges on, or just posterior to, the narrow crest of the uterus, in the direction of its line of axis, and in such a way as to equally distribute the force to all of its supports; and the organ in this position does not receive the whole impulse of the intra-abdominal pressure at one point, but it is equally distributed to all parts of its surfaces and is divided by its lateral, posterior and anterior supports.

3. On opening the abdomen, in laparotomies, the uterus, when not pathologic, almost invariably lies in the position I have described as normal, with the space between it and the bladder filled with light coils of small intestines.

By again consulting Fig. 2, it will be observed that the vagina is parallel with the brim of the true pelvis, the uterus lies in a direction at right angles to the vagina, so that its fundus is on a line with the plane of the superior strait of the pelvis, and just half way between the promontory of the sacrum and the symphysis pubis, with the cervix directed backward, lying within an inch and a half of the hollow of the sacrum. The bladder, when collapsed or moderately distended, is a triangular-shaped body; not flat like a plate, nor contracted into a sphere. The base of the triangle corresponds to the peritoneal surface, the apex to the urethra. The anterior wall corresponds to the symphysis, to which it is loosely attached; the posterior or inferior wall corresponds to the anterior wall of the vagina, to which it is more intimately attached. The rectum, when empty, collapses with the long axis of its diameter in an anteroposterior direction.

The sacro-uterine ligaments prevent the cervix from extreme excursions forward. The anterior vaginal wall prevents the cervix from going too far backward, and the round ligaments restrain the fundus of the uterus from backward dislocation. The vaginal column, the rectum, and the perineum act as a lower floor or cushion for the uterus, while the peritoneum envelops the whole organ above and the broad ligaments restrain it laterally. Its free peritoneal portion is surrounded by coils of small intestines. Finally, this organ, which represents the principal organ of generation, is surrounded by a bony wall, second to no other wall of protection, except that one which was found necessary to place around the brain. Thus, an organ of paramount importance, it is protected within by elastic guys and cushions, and from without by a bony case.

LYMPHATICS OF THE FEMALE PELVIS.

As gynecologists, it is important that we should know something of the lymphatic distribution from the female pelvis. From a practical standpoint we can cover this in a word. Practically, we should know what route the lymphatics take in leaving the pelvis, so that we may know what glands filter them. (Fig. 5.) The lower end of the vagina and the vulva is drained through the deep and superficial inguinal glands respectively. (Fig. 5a.) Enlargement of these glands, from infection or malignant metastases, would indicate that the source of the infection invasion was in the vulva or lower vagina. The upper two-thirds of the vagina, and the cervix uteri, and a portion of the body of the uterus, are drained through the obturator and the deep iliac glands (Fig. 5b), while the lymphatics of the fundus, of the uterus and the Fallopian tubes and ovaries are filtered through the lumbar glands. (Fig. 5c.)

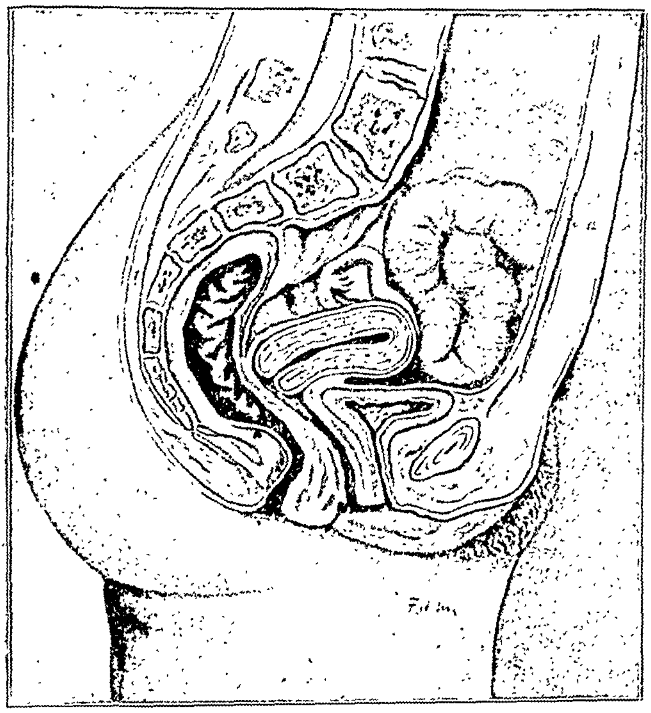

Fig. 2.—Author's schematic drawing of normal relation of pelvic organs.

BLOOD-SUPPLY.

Three things particularly interest us in the blood-supply to the pelvis:

1. The arterial supply to the pelvic organs is derived from widely separated points, and it is provided with the freest anastomoses. This appears to be a wise provision to guard against the possibility of depriving the important organs of the pelvis of blood, as a result of a simple accident to any of the parts. For instance, one-third of the blood-supply to the uterus passes through the spermatic or ovarian arteries (Fig. 6), which spring directly from the abdominal aorta and travel a long distance before reaching the organs they supply, while two-thirds of the blood-supply arrives through the uterine arteries from the internal iliac vessels.

2. The veins of the uterus contain no valves.

3. The left spermatic or ovarian vein enters the general circulation at a disadvantage, as it enters the left renal vein at right angles, while the right spermatic vein enters directly the vena cava at an advantageous angle. This fact has a practical bearing, as it partly accounts, no doubt, for the fact that the left appendages are more often diseased than the right.

THE NERVE-SUPPLY.

The female pelvic organs are so abundantly supplied with nerves, both of the spinal and sympathetic varieties, together with numerous nerve ganglia, that this part of the nervous system has been called the abdominal brain (Fig. 7). It interests us to know that the hypogastric plexus, in its continuation below, forms the pelvic plexus, and that from the pelvic plexus arises the vaginal, the uterine, the vesical and the hemorrhoidal plexuses. It interests us to know that these various groups of nerves are intimately connected with each other, and that they are directly formed from the long chain of sympathetic cords and ganglia which flank the spinal cord, from, and including, the brain above, to the coccyx ganglion below. It especially interests us to know that these groups of nerves communicate with and are, to a degree, under the influence of the spinal nerves, and therefore the cerebrospinal centers. It is also interesting to know that they have nerve centers of their own in numerous ganglia, distributed about in the course of their branches, and therefore have power to originate independent influence among the organs of their distribution. Thus, the uterus and its appendages possess nerves, 1, of sensibility in the sensory nerves of the cerebrospinal center; 2, nerves of motion in the motor nerves from the cerebrospinal center; 3, communicating nerves, which connect the sympathetic plexus of nerves directly with the cerebrospinal centers, and with other plexuses, by direct communication of fibers, and through the general sympathetic chains; and 4, through nerves receiving their influence directly from the ganglia located in or about the organs.

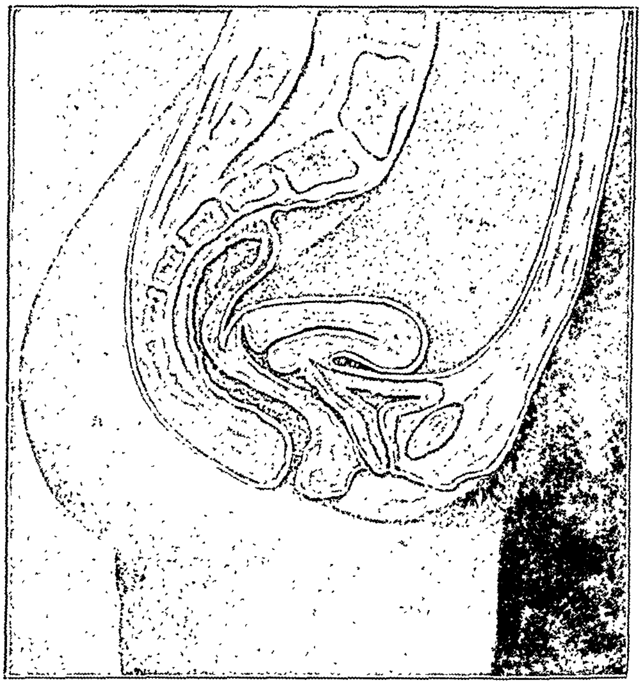

Fig. 3.—Improper illustration, showing uterus too far forward so as to interfere with bladder, and rectum collapsed laterally.

The study of this great abdominal and pelvic brain is one of great interest and profit to the gynecologist, because there is nothing corresponding to it in the male which is worthy of comparison with it. It is conspicuously obvious to the thinking man why this is. The uterus, with its great function which makes woman mother, demands this second brain.

THE USE OF THE PELVI-ABDOMINAL BRAIN.

This large network of nerves has many duties. It provides for the intelligent nutrition of these organs from birth to puberty. In this respect the action is common in both sexes. At puberty these nerves provide for the beginning of menstruation. Here the ganglia develop and the automatic cycle of menstruation is cared for. Automatically the nerves of nutrition provide for an enlargement of the pelvis, development of the external and internal genital organs, the enlargement of the breasts, and the storing up of adipose tissue as emergency food for the offspring of the woman.

The sensory nerves of the organs of generation develop *pari passu* with all these changes; the sexual instinct and the powers of sexual gratification are provided for. When conception occurs the wonderful work of the abdominal brain begins. Through its communicating branches it must immediately negotiate with the heart for more blood for the new requirements for nourishment in the embryo; with the stomach and intestines, with the former to digest more food, with the latter to increase its assimilation; with the breasts for preliminary changes to provide for the required development in their milk glands, and through the cerebrospinal nerves with the brain, to increase hunger and to develop the affections of the mother for her developing offspring. As the fetus grows, automatically, must the uterus be developed; must other organs of the pelvis and abdomen be carefully prepared to make room for the rapidly growing uterus; must menstruation be stopped; must the ligaments of the pelvis be softened; must the pelvic outlet be gradually prepared for the inevitable birth. All develop, gradually, automatically and intelligently, and as it becomes more complex, is less under the control of the higher brain. It finally becomes the function alone of the nervous system, not connected with the intelligence of the individual. Then the most remarkable thing of all occurs! On a given day, when the time is ripe, without warning, independent of the woman's intelligence, the wonderful labor of birth begins! The cervix is caused to soften and dilate, the muscles of the uterus begin to close around its burden, the head of the child is crowded into the pelvis, the glands of the genital tract everywhere begin to secrete an abundance of lubricating fluid, the cervix fully dilates, the head reaches the sensory nerves of the perineum, and for the first time in months the woman is called on to assist in the great work of bringing forth her child. She is almost compelled to contract the great voluntary muscles of the abdominal wall, and at last the great nervous intelligence of the abdomen has succeeded in its task and has brought forward a child. Finally this network of nerves and ganglia brings forth involution. It expels the placenta, it sends forth a final gush of antiseptic fluid, it contracts the uterus until its great valveless veins can not bleed, it causes a rush of blood to the already prepared breasts. This it does immediately. In two days the breasts secrete milk, in two weeks the active nutrition in the pelvis has changed the uterus from an organ of pounds in weight to one of as many ounces, the enormously distended external genitals contract and the woman is again, after nine months of most wonderful experience, a normal woman nourishing her offspring.

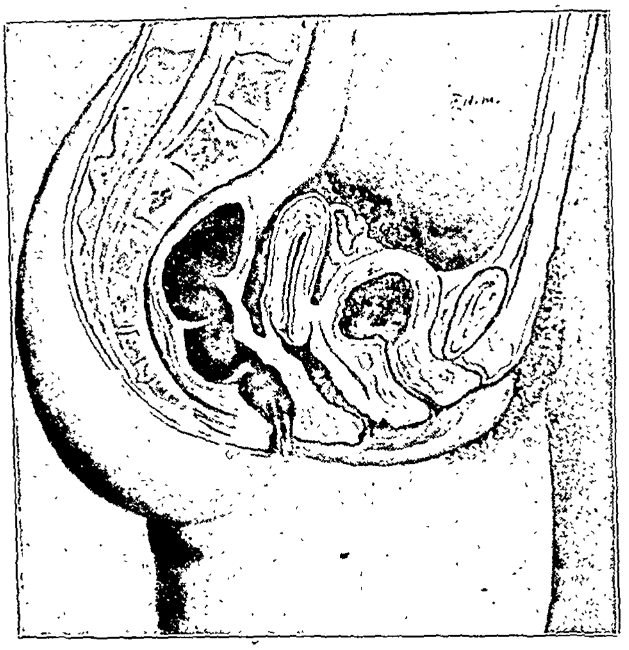

Fig. 4.—Illustration after Savage. Shows uterus too far back. Bladder collapsed like a ball.

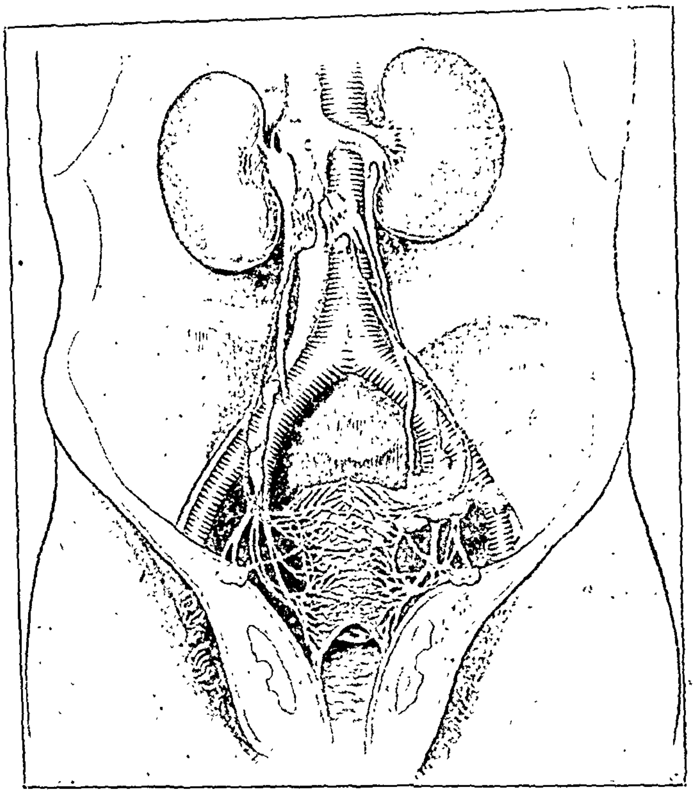

Fig. 5.—Lymphatics of the pelvis. *a*, Deep inguinal glands; *b*, deep iliac glands; *c*, lumbar glands.

The practical side of the fact of the wonderful development of the nerve plexuses in the female pelvis and abdomen, it seems to me, is easy to recognize. This intricate mechanism of nerves which works on automatically in health without friction or pain, or consciousness of its activity to the individual possessing it, accomplishing such remarkable results, is capable of becoming one of the most complicated nests of torture one can imagine, if for any reason the normal arrangement becomes disturbed. It is like a telephone system in a great city, with its many wires, stations and substations, with its short-distance and long-distance 'phones, which when in perfect order are a marvel of perfection, but which after an accident that destroys a station or grounds a system of wires, immediately becomes a hopeless confusion.

A displacement of the uterus, or a center of infection within its walls, has the effect of disturbing the endings of a large number of communicating nerves; this will result in false impression being conveyed to the heart, lungs, stomach, intestines and brain. As these impressions are not regulated, the functions of these various organs will become erratic and unsymmetrical. In one, the functional activity will become increased, in another decreased. This lack of harmony will soon bring disaster to the nutrition of the body, this will weaken the central nervous system, the will power will be decreased, and in a short time we will have a poorly-nourished, weak, hysterical woman, with but little apparently in the way of local disturbance to account for it all.

HISTORY OF CASES.

Nothing can be of more importance in pointing to a diagnosis in given cases than that which is contained in a well-gathered history. A blank form should be employed, in order that a systematic method may be cultivated, and in order that nothing should be neglected. The necessity of a history is so obvious that I will not dwell on it further than to give one or two examples, which will illustrate its importance in arriving at conclusions.

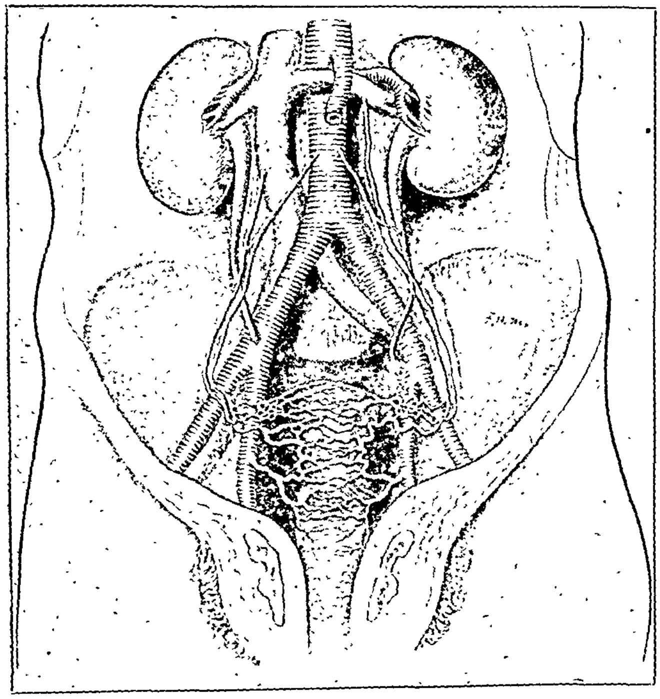

Fig. 6.—Blood supply to female pelvis.

A young woman will state in the history that at the first menstruation she experienced, it was accompanied with excruciating pains of one or two minutes' duration, and with intervals of rest between of five to ten minutes, that the pains gradually grew less and less, and finally ceased with the termination of the flow. We know here that some form of obstruction existed in this case, and from beginning at the first menstruation it was probably due to non-development of the uterus, with an acute anterior flexion.

A woman gives a history of perfect health up to the time she was married three months ago. Suddenly, after a few weeks of irritation about the vulva, some burning at urination, some discharge from vagina, she had a severe excruciating pain in one side of the pelvis, she went to bed and had a fever; swelling and extreme tenderness of the lower abdomen, chills and sweats, and the doctor treated her for inflammation of the bowels or peritonitis. She finally recovered partially, but has never been free from pelvic pain or irritation since. She has become thin, nervous, despondent, hysterical and an invalid! This woman was infected after marriage by the gonococcus, the infection extended into the tubes, and finally, from overdistension of the pus-tubes, the peritoneum was invaded and localized peritonitis developed, the pus cavity was closed off and the peritonitis limited by a wall of adherent intestines and omentum.

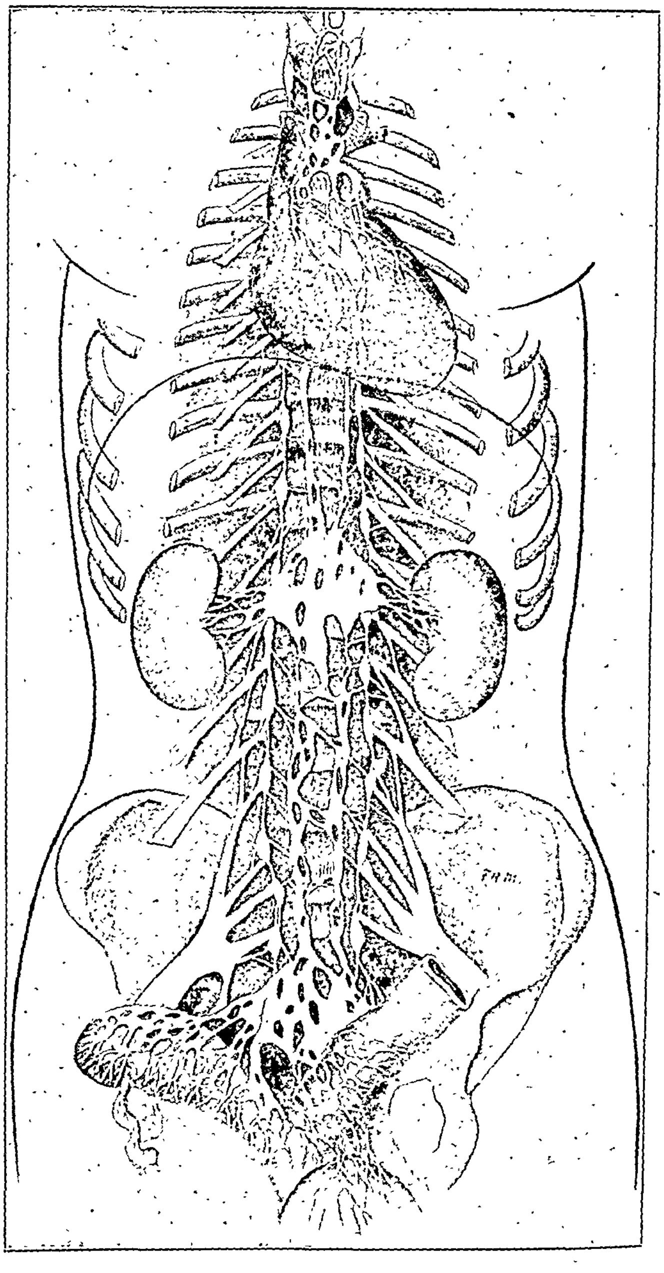

Fig. 7.—Nerve supply to female abdomen and pelvis.
The author respectfully refers the reader to Prof. Byron Robinson's original drawing of the nervous system of the female abdomen.

A third gives a history of perfect health through a long life of usefulness and child-bearing, and finally reaching a well-earned rest two years before, at the age of 50, by the appearance of the menopause. Within two months, after having been free of menstruation for two years, a gush of straw-colored fluid came from the vagina. This has been repeated two or three times, and once or twice there has been some bright blood. The discharge has been on the increase some; it has become offensive; she has been losing flesh rapidly; she has had some uterine pain of a steady sharp character. A peculiar change of complexion has developed. She has become unusually weak! This woman has given us the classical history of carcinoma of the uterus.

And so, there are many other stories which will come out in the histories, often making easy the task of diagnosis.

EXAMINATION OF PATIENTS.

The examination of a gynecological patient should be general and local. The *general examination* should be conducted in such a way as to discover if all organs outside of the pelvis are organically healthy. If there are symptoms which indicate that the eyes possess an error of refraction which should be corrected, we should certainly have that point cleared by some one in whom we have confidence. The heart and lungs, the stomach and intestines, should be thoroughly investigated. The condition of the blood, the condition of the urine, should both be passed upon by a competent judge. It is due to ourselves that we eliminate, or if it is impossible to eliminate, to at least recognize, any serious organic difficulty outside our own narrow specialty. Nothing can be more humiliating than to wake up to a failure, after giving a patient a long course of treatment, due to our carelessness in recognizing some gross lesion in another part of the body.

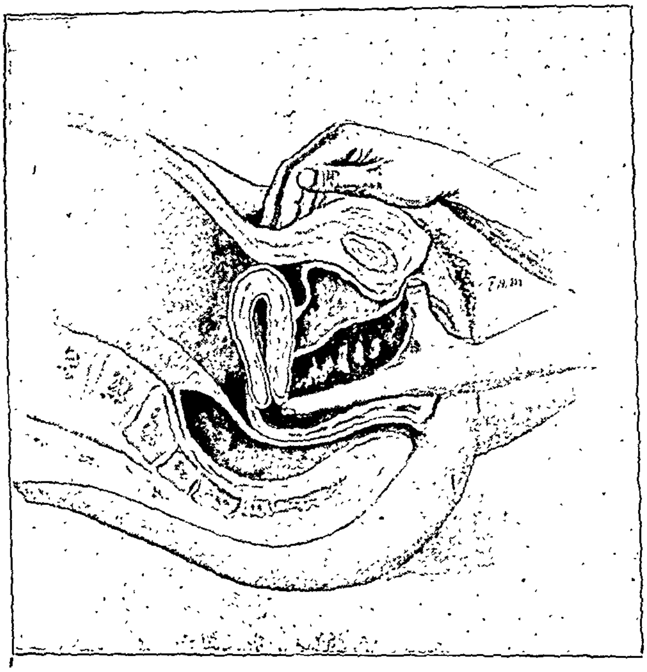

Figure 8.

The *local examination* consists in inspection and manual manipulation, and the examination with instruments. With a patient lying in a horizontal position, with the limbs fixed so that the bottoms of the feet are resting firmly on the table, with the clothing removed, with the exception of the loose under-garments, the abdomen should be carefully inspected and palpated. The pelvic region is first inspected and carefuly palpated. Unusual enlargement of the uterus, or abdominal growths of large size, will immediately be recognized. The abdomen should be examined for free fluid. The region of the appendix should be carefully palpated in every case, with the id[illegible] any indication of tumor. This is [illegible] ne examiner standing at the right side of the pelvis and firmly pressing on the abdominal walls near the center of the abdomen, below the umbilicus, and drawing the palmar surfaces of the two hands employed, with less resistance to the right side, allowing the muscles to gradually slip from beneath the fingers. Where a marked induration exists, percussion will give valuable information.

An attempt should be made in every case to palpate each kidney. A normal kidney is with great difficulty palpable. Any marked enlargement of the kidney or displacement is easily recognized. The operator, in attempting to palpate the kidney, should stand on the side of the patient of the particular kidney to be palpated, and should place his left hand beneath the patient's loin, just external to the spine, and just below the short ribs, and the other hand is placed on the abdomen near the center, at, or just above, the umbilicus, and as the upper hand presses firmly, it is drawn toward the operator. This movement will engage the kidney if it is palpable. The same maneuver is carried out on the opposite side.

The next point of importance to palpate, is the region of the gall-bladder. An enlarged gall-bladder can frequently be palpated.

The systematic examination of the abdomen, in every case keeping in mind these prominent points, soon establishes a habit which will make an operator acute in detecting minor changes, and many things will be revealed which would never come out in a simple bimanual examination of the pelvis.

The patient should now be brought to the end of the examining table, with her two feet supported on the stirrups, and the buttocks at the edge of the end. The examiner separates the limbs and makes a systematic inspection of the external genitals. The clitoris is first examined, and the presence or absence of adhesion between it and the prepuce. The meatus of the urethra is next examined. The presence or absence of infection is estimated by the appearance of the mouths of Skene's glands. The presence of polypi or a condition or displacement of the urethra is noted. The large and small labia surrounding the vulva are next inspected for signs of pathology. The mouths of the ducts of the vulvovaginal glands are carefully scrutinized for signs of infection. The perineum is next carefully examined, and its strength estimated by palpating it between a finger placed in the verge of the anus and another in the vagina. The anterior and posterior vaginal walls are observed in order to detect signs of prolapse.

The *digital* examination of the internal pelvic organs is now in order. (*Fig. 8.*) The index finger of the left hand should be employed as a routine for the purpose; because the palmar surface of that finger will naturally be directed to the left side of the pelvis, where disease more often exists; because the index finger of the left hand can be trained to a higher sense of acuteness than the strong right hand; because it leaves the strong right hand for external manipulation, which frequently requires considerable strength and endurance; it makes the operator ambidextrous; it reserves the right hand for handling instruments, while they may be directed by the left.

The vagina is rapidly examined with a sweep of the finger; the cervix is then examined, and its size, consistency, and condition in regard to lacerations, or pathological growths observed by the sense of feeling; the position of the cervix in the pelvis is also noted, as this gives a clue to the position of the balance of the uterus.

The operator now attempts to fix the uterus between his finger in the vagina, steadying the cervix, and a hand placed on the abdomen, a short distance above the symphysis, in such a way as to reach the fundus of the uterus. With the uterus in normal position with the vaginal finger in front and beneath the cervix, the fundus can easily be grasped as represented in Fig. 8. If the fundus of the uterus is retroverted, it can be palpated by placing the vaginal finger behind the cervix and pressing the fundus down on it with the hand above. The operator, in making a systematic bimanual examination of the pelvic organs, must succeed in palpating and examining the exact position of the uterus before he can estimate the condition of diseased appendages, or expect to palpate the normal tubes and ovaries.

With the uterus thoroughly in hand, it is a simple matter to pass to the left or right, and examine the tube or ovary, or both, of the respective sides. If the tubes or ovaries are diseased and enlarged, it is comparatively easy, with practice, to grasp them between the hand on the abdomen and the finger in the vagina. When they are normal, and the abdominal walls of the woman are unusually thick, or unusually unyielding, they may not be palpated. Remember that the tube entering the horn of the uterus is soft and inelastic to the touch, that the ovary is deeper in the pelvis at a short distance from the uterus, spherical in shape, and elastic to touch.

Patients should be examined under an anesthetic, preferably ether, if conditions exist making it impossible to make a satisfactory diagnosis of the condition of the pelvis without.

FOUR CASES OF CALCULI IMPACTED IN THE URETER.

NEPHRO-URETERECTOMY. ABDOMINAL URETERO-LITHOTOMY. VAGINAL URETERO-LITHOTOMY.

(From the Gynecological Clinic of the Johns Hopkins Hospital.)

B. R. SCHENCK, M.D.
BALTIMORE, MD.

Among the first to recognize the importance of operative interference in cases of calculus impacted in the ureter was Henry Morris,[1] of London, who as early as 1884 set forth the important principles governing the operative treatment of these cases. Although a considerable number of cases of ureteral stenosis from calculus had been reported clinically, and many in post-mortem protocols, there are but three brief records of operations, previous to Mr. Morris's paper.

In 1882, Bardenhauer[2] reported the successful removal of a stone from the ureter, by retroperitoneal ureterotomy, after which the ureter was closed with fine silk sutures. The other two cases are very briefly mentioned by Emmet,[3] in both of which calculi were impacted in the vesical end of the ureter, one being removed by cystotomy, and the other by vaginal ureterotomy.

Morris's case was that of a woman of 55 years, with a history of renal colic for thirty months, who for six days had had almost complete anuria. On digital examination of the bladder, a calculus was felt impacted in the orifice of the left ureter, and Morris points out that a vesical ureterotomy could have been done had the proper instruments been at hand. In discussing this case, the author says: "I know of no other case in which a calculus has thus been detected during life, although Dr. Rawdon,[4] of Liverpool, has reported an interesting case, in which a calculus impacted in the lower end of the ureter, was detected by a finger in the rectum, during life, and verified after death." The indications for digital exploration of the bladder, with a view to ureterotomy, are thus given. "As regards the question of surgical operation in which there is impaction in the ureter, there is no doubt but that in some of them the calculus could be removed by nephro-lithotomy or pyelo-nephrotomy. . . . and there is good reason to believe that with the more frequent resort to digital exploration of the kidney, through a lumbar incision, a calculus impacted in the upper end of the ureter will not infrequently be detected, and extracted through the loin. . . . . Calculi impacted in the intermediate parts of the ureter are practically beyond the reach of the surgeon." In view of the subsequent history of ureterotomy and the rapid advances which have since been made, these quotations from this early paper of Morris are of much interest.

Among the earlier cases of operation for removal of calculi impacted in the ureter, which have been much quoted throughout the literature on this subject, are those of extraperitoneal ureterotomy reported by Kirkham,[5] Ralfe and Godlee,[6] and Twynam[7] in 1889, and Cabot[8] in 1890; those of intraperitoneal ureterotomy reported by Cullingworth[9] in 1885, and Arbuthnot Lane[10] in 1890; that of combined intraperitoneal and extraperitoneal ureterotomy by Hall[11] in 1890; and that of vaginal ureterotomy by Cabot[12] in 1890.

As the total number of operative cases in the literature is still less than ninety, very many of which are but briefly cited, it has seemed important to report, somewhat in detail, the cases which have come to operation in the gynecological department of the Johns Hopkins Hospital. To these are added the notes of a case recently occurring in the service of Dr. W. S. Halsted. The operation in each of these four cases was done by Dr. Howard A. Kelly.

Case 1.—(Gynecological number, 6872.) Mrs. M. R., aged 29 years, was admitted to the service of Dr. Kelly, on April 25, 1899, complaining of pain in the left side, back and left lower abdomen, of three years' duration. The patient's family and past history was excellent; she had had four children and two miscarriages; the labors and puerperia were normal.

For the past three years she has suffered from intermittent attacks of dull aching pain in the left side and back, extending down into the left lower part of the abdomen. These attacks have occurred about once a week and usually last from three to four hours, being severe enough to require morphia for relief. The severest attack which she remembers was about one year ago, and this lasted about eight hours. The patient has noticed that the urine is very small in amount during an attack, and when the pain is unusually severe the secretion is almost completely suppressed. After the pain has passed away, however, the amount has sometimes been large, there having been voided as much as a quart in a short time. The urine has often been dark-colored, with a white sediment, but blood, brick-dust sediment or calculi have never been noticed. Micturition has never been painful. She gives no history of chills, fever, jaundice or nausea. The appetite has always been good, but the bowels have been somewhat constipated. There has at times been some headache and vertigo, but these symptoms have never been excessive. There has been no loss of weight and strength has been well maintained.

On physical examination the patient was found to be a well-nourished, young-looking woman. The abdomen appeared quite natural and was everywhere soft on palpation, the edge of the liver, spleen and kidneys not being felt. On deep pressure there was some tenderness in the left flank, but this was not marked. She described, very minutely, the location and direction of the pain during an attack, indicating this by drawing a line, beginning just below the twelfth rib on the left side, at the posterior border of the quadratus lumborum muscle, extending down to the crest of the ilium and thence anteriorally to a point just below the anterior superior iliac spine.

On admission the temperature was 98.6 F., and the pulse 100. The urine was clear yellow, with a specific gravity of 1017, neutral, and contained a faint trace of albumin. Microscopically there were mucous cylindroids, a few pus cells, a few red blood-corpuscles and bladder epithelial cells, but no casts.

Previous to her admission to the hospital Mrs. R. had been seen by Dr. Kelly at his office, at which time a wax-tipped catheter was passed a few centimeters into the left ureter. On withdrawing the catheter there were definite scratch marks on the polished tip, from which the diagnosis of calculous stenosis of the ureter was made.

The day before operation the right ureter was catheterized, in order to ascertain the condition of the right kidney. In thirty minutes 8 c.c. of practically normal urine were collected, thus demonstrating the efficiency of the supposedly sound side.

Operation was performed May 5, 1899, by Dr. Kelly, with peritoneal and extraperitoneal incisions, nephro-ureterectomy, and drainage.

A catheter was passed into the left ureter and was distinctly felt to be gripped by, and then pass, one or more strictures in the lower part of the pelvis. The patient was then placed on the right side and an incision made midway between the crest of the ilium and the twelfth rib, anterior to the quadratus lumborum muscle, the peritoneum being opened just outside the descending colon. The right kidney and the upper part of the right ureter were palpated and found to be apparently normal. The left kidney seemed rather long, but normal, except for a deep depression in the center. The left ureter, on the contrary, was nodular, and enormously enlarged, being about the size of the descending colon. It was densely adherent at about the middle of the psoas muscle.

The enucleation was begun by shelling out the kidney, it being necessary to release numerous adhesions on all sides. After freeing and drawing the upper part of the kidney into the incision, the hilum was gradually tied off from above downward, taking care not to injure the large dilated pelvis. The renal vessels were tied separately with fine silk ligatures, divided, and the kidney freed, except around the pelvis, which was then slowly dissected free with scissors, as were about 5 cm. (2 inches) of the upper part of the ureter. This portion of the ureter was so firmly adherent to the peritoneum, muscle and cellular tissue that it had to be separated with great care, many small vessels being tied with catgut. The incision in the abdominal wall was then closed with catgut to each layer.

A second incision was now made, extraperitoneally, below the first and similar to that usually employed for tying the iliac artery. This extended mesially as far as the linea semilunaris, and was separated from the first incision by a bridge of tissue, about 6 cm. (2 2/5 inches) wide. The enucleation of the ureter was then continued downward to the brim of the pelvis, and over the bifurcation of the iliac artery, where it was again found densely adherent, and had to be freed by a process of slow dissection. While continuing the separation downward along the floor of the pelvis the peritoneum was inadvertently torn, as was also the ureter, close by the bladder, at the point of stricture. At this point a rough ovoid calculus, 3.5 cm. (1 2/5 inches) long and 1.5 cm. (3/5 inches) in diameter, was found completely occluding the lumen of the ureter.

The ureter was then cut off just below the calculus, and the kidney and ureter removed in one piece, the ureteral stump being closed over with catgut sutures. Considerable pus had escaped from the torn ureter, and, after thorough irrigation, a gauze drain was inserted from above, meeting another placed through the vaginal vault. A third drain was placed in the position of the kidney, and the remainder of the wound closed with interrupted silkworm and catgut sutures.

Ether anesthesia was used, the time of the operation being three hours and twenty minutes. The patient stood the operation well, the pulse at the end being 124 to the minute.

Five hours after, there was a condition of profound shock, requiring most urgent stimulation, but thereafter the convalescence was entirely satisfactory. The drainage tracts gradually contracted down, the remainder of the wound having healed per primam. At the time of discharge from the hospital, the twenty-sixth day, there still persisted a sinus, the size of the little finger, extending 10 to 11 cm. (4 inches) down into the pelvis, and discharging a small amount of thin purulent fluid. There was absolutely no pain and the general condition was excellent.

A letter recently received from Mrs. R. states that she is entirely free from pain, has gained twenty-seven pounds in weight, and is in excellent health.

ABSTRACT FROM PHE PATHOLOGICAL REPORT (NO. 3127).

The kidney is altered in shape and is somewhat enlarged, being 13.5 cm. (5 4/5 inch) long. At the middle of the convex border is a triangular depression 1.5x2.5 cm. (½x1 inch) in size and 5 mm. (1/5 inch) in depth, whose base is rough and consists of dense fibrous tissue. The kidney substance itself is rough, presents well-marked lobulation, is slightly granular and the superficial blood-vessels are dilated. The cortex is dense in consistency, while the pelvis is filled with fluid.

On section, the upper portion is congested, but fairly normal, while at the lower pole the cortical and medullary portions are ill defined and the congestion less marked. Where the depression was noted externally, the renal substance has been replaced by a band of dense fibrous tissue, averaging 5 mm. (1/5 inch) in thickness. The pelvis is moderately dilated, its mucosa pale and smooth, except over the apices of the pyramids, where it is much congested.

The ureter is represented by a large, sacculated cylinder, 20 cm. (8 inches) long, and averaging 3 cm. (1 1/5 inches) in diameter. It is slightly kinked, and contracted at the junction of the first and second quarters, and again at the third and fourth, giving it somewhat the appearance of a string of sausages. The whole is enveloped in a mass of adhesions, containing lobules of fat. On pressure, it is partly fluctuant and partly firm and resistant.

On section, the ureter is of unequal caliber, presenting irregular intervals of dilatation and contraction. The lumen varies from 5 mm. (1/5 inch) to 1.5 (3/5 inch) in diameter. The walls are greatly thickened and edematous, in some places reaching 1.5 cm. (3/5 inch) in thickness. The mucosa is at intervals smooth, at others corrugated. In places it is anemic and thinned out, and in others congested and edematous. The lumen contains a small amount of seropurulent fluid.

Microscopically the kidney shows the changes commonly seen in advanced, chronic interstitial nephritis. Sections of the ureter show it to be ensheathed in a mass of adipose, and newly-formed connective tissue, rich in blood-vessels of moderate size, and showing a general leucocytic infiltration. The walls are greatly thickened, owing in part to hypertrophy of the smooth muscle, but chiefly to a thick tunic of connective tissue, external to the muscular coats. This tissue is very edematous and contains several foci of round cell infiltration. This coat in places is 7 to 8 mm. (1/3 inch) in thickness.

The mucosa lining the canal is also thickened. It presents the usual folds, and is covered in general by intact, transitional epithelium. Here and there over the summits of the folds it is thin, sometimes only one layer of poorly staining cells remaining, while at one or two points the surface is denuded of its epithelium. In sections taken at the level of the impacted calculus the lumen is dilated, the folds of the mucous membrane flattened, and the mucosa thinner than elsewhere.

The calculus is ovoid in shape, with tapering ends. The surface is rough, crystalline and of a yellowish-brown color. It measures 3x1.5x1.3 cm. (1 2/5x3/5x2/5 inch), and consists principally of calcium carbonate, with small quantities of calcium and magnesium phosphate.

CASE 2.—(Gynecological number 6598.) Miss K., aged 37 years, was admitted to the service of Dr. Kelly, Johns Hopkins Hospital, Dec. 22, 1898, complaining of a painful swelling in the right side of the abdomen. Except for irregular menstruation, she had always been well and strong until eight years before coming to the hospital, when she first noticed a swelling in the lower part of the right side, which she describes as having been about six inches long and four inches wide. This swelling came on rather gradually, attaining its maximum size in about one week, when, after persisting for three or four days, it gradually disappeared. During this time she felt miserable, was nauseated, had a constant frontal headache and a dull pain in the abdomen, with now and then sharp cramps in the region of the swelling. She does not remember having had fever, and does not recall having passed at any time either unusually small or unusually large amounts of urine.

The subsequent history has been that of a repetition of similar attacks, usually at intervals of three or four months. For the last three years, however, the tumor has been reappearing every three weeks, and for the past six weeks it has remained permanent. During the first few days of this last reappearance the patient had an unusually sharp attack of pain in the right side, was much nauseated, felt feverish and had slight diarrhea. Micturition has never been painful, and there has been no hematuria.

On admission to the hospital the temperature was 99.2 F.

and the pulse 100. The heart and lungs were normal. The abdomen was unsymmetrical, the right half and right flank being more or less completely occupied by an area of elevation, which rose to within 1 cm. (1/5 inch) of the costal margin, and extended 6.5 cm. (2½ inches) toward the symphysis pubis. Its greatest prominence was at the level of, and 1 cm. to the right of, the umbilicus. On palpation no definite tumor mass could be made out, one simply feeling a distinct area of resistance, extending downward from below the costal margin. The percussion note over this area was flat. Rectal and vaginal examinations were negative.

Urine on admission: The catheterized specimen was smoky, witn a small amount of reddish percipitate, consisting of a large number of red blood-corpuscles, a few leucocytes and a few epithelial cells from the bladder; specific gravity, 1023; reaction acid. A trace of albumin was present; sugar test negative.

Operation, Dec. 24, 1898, was performed by Dr. Kelly, with abdominal uretero-lithotomy, suture of the ureter with fine silk and drainage.

An oblique incision, 20 cm. (8 inches) long was made over the prominence of the tumor, beginning posteriorally and extending downward and to the left. The peritoneum was opened, exposing the large dilated pelvis of the right kidney, pointing out anteriorally, the kidney cortex, which was only .5 cm. (½ inch) thick, being confined to the upper and outer pole. A free incision was then made into the lower pole of the sac, evacuating 370 c.c. of pale urine, and with it a little flat, dark colored stone 6 mm. (1/5 inch) long. The sac was so large and irregular that a search for the opening into the ureter was unavailing. The colon was then pulled over and a furtner search on the outside of the sac made without result, until the ureter was picked up, with the ovarian vessels, at the pelvic brim, pulled down in order to make it tense, and then followed up step by step into the cellular tissue behind the colon.

When a point 3 cm. (1 1/5 inches) below the renal orifice was reached, two stones were plainly seen and felt, firmly lodged in the lumen of the ureter. The calculi were 12 to 14 mm. (½ inch) long, the lower one being a little the larger. The ureter below them was normal in size and appearance. As suggested by Israel, an attempt was now made to push the stones up into the pelvis of the kidney, in order to remove them through the pelvic opening already made, but this was impossible without tearing the ureter.

The ureter, at the level of the impaction, was then freed of all its connective tissue envelope, and by means of a rope of gauze passed beneath it, pulled down within easier reach. After making a longitudinal incision, through the ureteral wall over the lower third of the lower stone, an unsuccessful attempt was made to dislodge it. As it could not be moved, the incision was carried upward, exposing the whole stone, when it was lifted out with difficulty, on account of the firm adhesions to the ureteral wall. The upper stone could not be pulled down and extracted througn this opening, it being necessary to continue the ureteral incision until it was 3.5 cm. (1 2/5 inches) long. The second calculus, also adherent, was then picked out, leaving behind a roughened ureteral wall, which was considerably thickened at this level.

The incision in the ureter was then closed with twelve fine silk sutures, placed about 3 mm. (⅛ inch) apart, great care being taken not to encroach upon the lumen of the tube. The opening in the renal pelvis was sutured with interrupted stitches of fine silk, and the wound closed, with lateral drainage from the peritoneal cavity.

As an anesthetic 420 gms. of ether were given, the time of operation being two hours and four minutes. Throughout the operation the condition of the patient was alarming, the respirations being shallow and the pulse weak and rapid—140 to the minute. The general condition, however, was somewhat improved by a submammary infusion of salt solution.

The fluid evacuated from the hydronephrotic sac measured 370 c.c. (12 oz.), had a specific gravity of 1006, and was neutral in reaction. It contained a trace of albumin, no sugar, and its urea equalled .0014 gms. per c.c. Microscopically there were a few red blood-corpuscles and leucocytes.

The patient rallied well from the operation, her highest temperature being 101 F., on the evening of the third day. During the first week after operation the urine contained considerable quantities of blood, but this gradually diminished, and at the time of her discharge the analysis was as follows: Dark amber, with a small amount of reddish percipitate, consisting of red blood-corpuscles, leucocytes, ammonium urate and triple phosphate crystals, and a few hyaline casts; specific gravity, 1015; reaction, neutral; no albumin; no sugar.

The gauze drain was gradually removed, beginning on the sixth day. Except at the point of drainage, the wound healed *per primam*, and the subsequent convalescence was uneventful. She was discharged from the hospital on the thirty-first day after the operation.

Since leaving the hospital the patient's health has been excellent. She has had no recurrence of the attacks of colic from which she suffered previous to the operation.

Case 3.—(Gynecological number 7762.) Mrs. J., aged 32 years, the mother of two children, was admitted to the service of Dr. Kelly, April 24, 1900, complaining of a swelling in the left flank and of pyuria of long duration. Mrs. J. dated her illness back eleven years, but previous to that had always enjoyed excellent health. During these eleven years she has had repeated attacks of renal colic, most frequently on the left side, but occasionally on the right. These attacks have varied in frequency, sometimes coming as often as once a month, the last one, however, having been about eighteen months ago, when there was a severe attack of pain on the right side. At this time she was examined by Dr. Malloch, of Hamilton, Ontario, who discovered a tumor in the region of the left kidney.

For many years there has been more or less pus in the urine; sometimes the amount is very large and again the urine becomes much clearer for a time. Whether the size of the swelling in the left side corresponds to the amount of pus in the urine the patient does not know. She has never noticed any hematuria, but has been told that there was blood in the specimens examined microscopically. Dr. Malloch also reports that no tubercle bacilli have ever been found, although repeatedly examined for. So far as known, no calculi have ever been voided. Urination seemed to be normal, although possibly somewhat increased in freqency. Mrs. J. thought that the tumor had increased somewhat in size during the past year, but at this time she suffered no pain, and came to the hospital only because advised to do so by her physician.

On examination the patient was found to be a slight woman, fairly well nourished, but with a somewhat sallow complexion. The lips and mucous membranes were pale, the hemoglobin being but 60 per cent.

The abdomen was somewhat asymmetrical, the left flank line bulging abruptly under the costal margin, causing the floating ribs to be displaced laterally. Toward the median line another swelling was apparent, most prominent in the parasternal line, just to the left of the umbilicus and extending downward to within 5 cm. (2 inches) of Poupart's ligament. On palpation a distinct tumor could be felt, extending from beneath the twelfth rib on the left, mesially to within 2.5 cm. (1 inch) of the median line and downward to within 5 cm. (2 inches) of Poupart's ligament. This mass was semi-fluctuant, rounded, and at a point half way between the costal margin and the umbilicus a distinct notch could be felt. The tumor was quite freely movable, descended about 3 cm. (1 1/5 inches) on deep inspiration, and could be pushed for a distance of 5 cm. (2 inches) upward and to the left toward the position of the left kidney. It was slightly sensitive on deep pressure.

The abdomen was everywhere tympanitic, except in the region of this mass, which was uniformly dull on percussion. The right kidney was distinctly palpable. No induration nor tenderness could be made out along the course of either ureter.

On April 25, Dr. Kelly examined the bladder and catheterized both ureters, according to his method with the open cystoscope and air-distended bladder. A wax-tipped catheter was first passed into the left ureter and up into the renal pelvis. The urine began to flow in thirty seconds, and in five minutes 15 c.c. had collected. When the catheter was withdrawn scratch marks were plainly visible on the wax tip.

The right side was then catheterized, also with a catheter tipped with wax. Soon after entering the ureter a partial obstruction was met, but after careful manipulation the catheter could be pushed up into the pelvis of the kidney. On withdrawing the stylet urine immediately began to flow, and in thirty-five seconds 60 c.c. were obtained, thus demonstrating a definite dilatation of the upper ureter and renal pelvis. On withdrawing the catheter it was found to be engaged until within 12.5 cm. of the external ureteral orifice. Deducting 4 cm. (the length of the urethra) and 2 cm. (the distance from the internal urethral orifice to the ureteral opening) the obstruction was computed to be 6.5 cm. (2 3/5 inches) from the bladder. The wax tip, after withdrawal, showed several long, deep stratch marks.

Cultures were made from the separated urines and from the bladder. All three showed a pure culture of the bacillus capsulatus of Friedländer.

The urinary examinations were as follows: Average amount voided in twenty-four hours previous to the operation, 1300 c.c.; light yellow, diffusely cloudy; specific gravity, 1008; acid; no sugar; albumin present to the amount of one-tenth of 1 per cent. Microscopically, very many pus cells were seen, no casts, no red blood-corpuscles, and no crystalline elements. The urea equalled 3 gms. to the liter.

Urine from the right kidney: April 25, light yellow, with a flocculent white precipitate; acid; no sugar; a trace of albumin. Microscopically, pus cells and a few red blood-corpuscles were seen, but no casts and no crystals. The urea equalled 4 gms. to the liter.

Urine from the left kidney: Very pale, diffusely cloudy; faintly acid; no sugar; albumin present in much larger quantities than on the right side, but the amount obtained was not sufficient for a quantitative test. The precipitate of pus was also much greater than on the opposite side. Microscopically, there were many pus cells, large epithelial cells from the renal pelvis, and a few red blood-corpuscles; no casts and no crystals. The urea equalled 2¼ gms. to the liter.

On April 27, a radiograph was taken by Dr. C. L. Leonard, of Philadelphia, who happened to be present in Baltimore at this time. The plate distinctly showed a shadow in the region of the left kidney and another, about the size of an almond, on the right side. This appeared to be located in the position of the right ureter, at the point where it crosses the pelvic brim, and therefore appeared higher up than the position made out by the catheter. As was later shown, this error was due to the obliquity of the rays.

Operation was performed April 28, 1900, by Dr. Kelly, with left lumbar nephrolithotomy.

An incision 8 cm. (3 1/5 inches) long was made through the skin and subcutaneous fat, extending downward and forward, directly over Petit's triangle. By pushing the external oblique muscle forward and the latissimus dorsi backward the fibers of the internal oblique muscle were exposed. By separating these fibers the thin fascia of the transversalis muscle came into view, and was incised, exposing the perirenal fat around the lower third of the kidney. After tearing away a portion of this fat the renal pelvis was aspirated, considerable purulent urine withdrawn, and a calculus demonstrated. A blunt artery clamp was then thrust through the kidney substance, the opening thus made being slowly enlarged by blunt dissection. A large dendritic calculus was then removed, the stone being partially crushed during its extraction. This was followed by very free hemorrhage from the renal parenchyma. Failing to control this with sutures, the incision was tightly packed with gauze and a firm gauze compress applied to the wound, a portion of which had been closed with interrupted silkworm-gut sutures.

Chloroform was used for anesthesia, the time of operation being twenty-five minutes. The pulse at the end of operation was 64 to the minute.

The convalescence from the operation was very satisfactory. For three days there was an abundant discharge of urine from the sinus, the amount, however, decreasing until the packing was removed on the tenth day. The opening of the sinus caused the amount to increase, but after several days it began to diminish, and on the twenty-third day there was practically none, the patient voiding 2190 c.c. (70 ounces). The temperature on the third day touched 103 F., thereafter being about 100 until the twelfth day, when it became normal and remained so. The urine following this operation had practically the same characteristics as that previously passed.

On account of the profuse bleeding which took place during the operation, it was not deemed best to remove the calculus from the right ureter at that time. On the twenty-sixh day, however, the patient's condition was excellent, the pulse being 70 and the temperature 98.4 F., and the second operation was done.

Second Operation.—On May 23, 1900, Dr. Kelly performed an exploratory laparotomy with vaginal ureterotomy.

Before beginning the operation both ureters were catheterized. The left ureter was patulous and urine flowed freely from the catheter. On the right side the same resistance was met as at the previous examination. The right catheter was left in place.

An incision 12 cm. (5 inches) long was made in the median line of the abdomen. The left ureter was found to be of normal size, there being no evidence of thickening. On the right side the ureter above the pelvic brim felt normal, and careful palpation of the kidney revealed no stone. The right tube and ovary were adherent over the ureter low down in the pelvis. After the separation of these adhesions the calculus was found to be located about 6 cm. (2 3/5 inches) above the vesical opening. A small bulb syringe was now attached to the catheter, which had been left in the ureter, and the pelvis and ureter were distended with about 50 c.c. of boric solution, in order to move, if possible, the stone into a position more advantageous for extraction. It was found, however, to be adherent and could not be loosened. With the assistant's hand in the abdomen, locating and fixing the stone, it could be felt through the vaginal vault. An incision was therefore made with the sharp-pointed scissors through the vault of the vagina, and the tissues separated until the thickened ureter was encountered. This was then slit open with the "alligator" scissors and the calculus extracted with stone forceps. No attempt was made to suture the slit in the ureter.

The abdominal incision was then closed and a small iodoformized gauze drain placed, from the vagina, against the ureteral catheter, which was left in place.

Chloroform was used, the time of the operation being forty minutes. The pulse, at the end of the operation, was 68 to the minute.

The catheter was allowed to remain in the ureter for sixteen hours, and during this time it drained 650 c.c. of urine. It then became occluded and there was leakage into the vagina. However, this discharge ceased when the catheter was withdrawn and there was absolutely none until the gauze pack was removed, on the ninth day. There was then leakage until the fifteenth day, when it entirely ceased. In every respect the convalescence was perfectly satisfactory and the patient left the hospital on the twenty-seventh day. On that day the urinary analysis was as follows: Amount, 1920 c.c.; light straw color, slightly cloudy, with a small amount of sediment composed of pus cells and epithelial cells; specific gravity, 1010; reaction, acid; a faint trace of albumin.

The calculus removed from the right ureter was the size and shape of an almond. Its surface was rough and of a brownish-black color. The weight was 1.25 gms. (19 grains) and the dimensions 1.8x0.8x0.5 cm.

The condition of this patient remained excellent until the latter part of August, when she developed the symptoms of an acute intestinal obstruction. She was operated on by a surgeon in Canada, but did not survive the operation.

Case 4.—Mrs. R., aged 56 years, who was admitted to the service of Dr. Halsted, Oct. 19, 1900, had always enjoyed excellent health until the menopause, six years before. Since then her health has been poor, especially during the past two years, when she began to have edema of the ankles and continual drowsiness, with now and then severe headaches. Although she had frequently experienced a dull aching pain in the back, there were never any severe attacks until August, 1900, when she was suddenly seized with a "tearing" pain in the left side, radiating downward into the lower abdomen. Between August and October she had six similar attacks; with the last two, chills and fever. The last attack occurred one week before admission to the hospital. During the paroxysms there was burning pain in the bladder, after which the urine was scanty and highly colored. There was no history of hematuria or the passage of calculi.

The general physical examination was negative. On October 26, at Dr. Halsted's request, Dr. Kelly catheterized the left ureter with a wax-tipped catheter, which passed readily into the renal pelvis without resistance. Immediately on the stylet being withdrawn turbid urine began to flow and, in four minutes 30 c.c. were collected, showing a marked hydronephrosis. The patient was then placed on her right side and pressure over the left kidney caused 5 c.c. more to flow, distinctly more cloudy than the first portion collected. Cultures made from the urine as it flowed from the catheter showed the infection to be caused by the bacterium coli commune.

The catheter was then withdrawn 3 or 4 cm., and was felt to be grasped and then pass by an obstruction. It was then readily withdrawn and distinct scratch marks were seen on the wax tip.

The diagnosis of calculus of the renal pelvis, with associated hydronephrosis, was made on the following points: 1, scratch marks on the wax tip; 2, gripping of the catheter at a point high up; 3, large amount of urine collected in a short time; 4, infected urine. This confirmed the diagnosis which Dr. Halsted had previously made.

Operation, by Dr. Halsted, was performed Oct. 29, 1900—left lumbar nephrotomy.

After laying open the pelvis of the kidney, a careful search of each of the calices failed to reveal a stone. A waxed bougie was then passed down the ureter and was felt to meet an obstruction 27 cm. from the kidney, past which it was gently pushed. On withdrawal distinct stratch marks were found on the wax, demonstrating that the calculus, which had previously been felt high up, had slipped down to a point only a few centimeters from the vesical opening.

A vaginal examination was then made by Dr. Kelly and a nodule felt, high up in the left fornix. The vaginal wall was friable and broke down during the examination, allowing the stone to be worked down for a distance of about 4 cm. The ureter was then incised and a rough calculus weighing 2 grs., and measuring 1x0.5x0.4 cm., pulled out by means of a small tenaculum. A gauze drain was inserted into the vagina.

The patient made an excellent recovery. There was leakage of urine into the vagina, abundant at first, but gradually becoming less, and ceasing entirely on the sixteenth day.

DIAGNOSIS.

Unfortunately the diagnosis of calculus stenosis of the ureter is most difficult. While lumbar pain, associated with anemia and a fixed point of tenderness, may give important clues to this condition, it is often quite impossible to make the differential diagnosis from renal calculus. When the stone can not be felt through the vagina, rectum or abdominal wall, as has been done in thin individuals, there are but two satisfactory means of diagnosis, that of catheterizing the ureters with a bougie tipped with wax, as was done in Cases 1, 3, and 4, and since successfully employed by Dr. Kelly[13] in a case recently reported, and that of radiography, which in the hands of a few workers has given most excellent results. When the diagnosis can not be made by any of these means, resort must be had to an exploratory celiotomy, with direct palpation of the ureter, or a lumbar nephrotomy with probing of the ureter.

The impaction of stones, descending from the kidney, is due not only to their size and irregularity of form, but also to peculiarities of the ureter along its course, giving these well-recognized points of predilection for their arrest: 1, from 3 to 6 cm. (1 1/5 to 2 2/5 inches) from the kidney; 2, at the point where the ureter crosses the iliac artery; 3, at, or just above, the vesical orifice of the ureter.

In tabulating 84 operative cases, the position of the stone was found cited in 81. In 19—23.4 per cent.—the calculus was located within 6 cm. of the kidney; in 8—9.8 per cent.—at or near the pelvic brim; while 41—50.6 per cent.—were found within 5 cm. (2 inches) of the vesical opening, leaving but 16.2 per cent. for all other locations.

ROUTE FOR REMOVAL OF STONE.

The route to be selected for the removal of an ureteral stone depends of course upon the position of its impaction. If the calculus is located in the vesical portion of the ureter, i. e., that portion which traverses the bladder wall, it may be reached *per urethram*—in the female—the ureteral opening being either dilated or the mucosa slit sufficiently to allow the extraction of the stone. This has been accomplished 7 times, with 1 death. When located low down, within 2 inches of the bladder, the choice is between vaginal ureterotomy, reported in 13 cases, with 1 death; rectal ureterotomy, chosen by Ceci,[14] whose patient died twenty-six hours after operation; vesical ureterotomy, of which there are recorded 5 cases, with 1 death; or ureterotomy through a perineal incision, done successfully once.

When the calculus is so situated that it can not be reached by any of these operations, the ureter should be exposed by an extraperitoneal incision, a longitudinal slit made in its wall over the stone, which is then extracted, and the incision closed with interrupted fine silk sutures. The possibility, however, of the coexistence of renal calculi, warrants the exploration of the pelvis of the kidney in cases where the extraperitoneal incision is sufficiently high to allow the kidney to be brought out of the wound and palpated.

On the other hand, ureterotomy through an abdominal incision is a more dangerous operation, on account of the liability of infection, and less desirable, on account of the possibility of a more troublesome fistula, should a sinus result. Transperitoneal ureterolithotomy has been reported 5 times (including Case 2) with 1 death, whereas in 24 cases in which the route was extraperitoneal, there have been but 3 deaths. In case the diagnosis has been made through an abdominal incision it is advisable to make, as Thornton,[15] Lloyd[16] and Morris[17] have done, a new incision in the lumbar region for the removal of the stone.

When the renal cortex is found to be degenerated and the pelvis and ureter infected, as in Case 1, here reported, nephro-ureterectomy is the most conservative procedure.

While many cases of stone impacted in the ureter have been noted clinically and in post-mortem protocols, a careful search of the literature has revealed but 80 reports of operations for the relief of this condition. A summary of these operations, including the four cases here reported in detail, follows.

Operation.	Cases.	R.	D.	Mortality Per Cent.
A. Nephrectomy—				
1. Lumbar	3	0	3	100
2. Abdominal	1	1	0	
B. Nephroureterectomy	4	4	0	
C. Nephrotomy (including pyelotomy)—				
1. Lumbar	16	11	5	31.2
2. Lumbar combined with celiotomy	2	2	0	
D. Ureterotomy—				
1. Extraperitoneal	21	18	3	14.3
2. Extraperitoneal combined with celiotomy	3	3	0	
3. Intraperitoneal	5	4	1	20
4. Vaginal	12	11	1	8.3
5. Vaginal combined with celiotomy	1	1	0	
6. Vesical	5	4	1	
7. Rectal	1	0	1	
8. Perineal	1	1	0	
E. Removal of calculus per urethram	8	7	1	12.5
F. Removal of calculus through an old sinus.	1	1	0	
	84	68	16	19

REFERENCES.

1. Morris: Am. Jour. Med. Sci., 1884, vol. 88, p. 458.
2. Bardenhauer: Centralbl. f. Chir., March 25, 1892.
3. Emmet: Principles and Pract. Gynecology, 1884, 3rd ed., p. 796.
4. Rawdon: British Med. Jour., 1879, i, p. 152.
5. Kirkham: The Lancet, 1889, i, p. 525.
6. Ralfe and Godlee: Ibid., p. 428.
7. Twynam: British Med. Jour., 1890, ii, p. 648.
8. Cabot: Boston Med. and Surg. Jour., 1890, p. 247.
9. Cullingworth: Trans. Path. Soc., vol. xxxvi, 1885, p. 278.
10. Lane: The Lancet, 1890, ii, p. 967.
11. Hall: Medical Record, 1890, vol. 38, p. 430.
12. Cabot: Boston Med. and Surg. Jour., 1890, p. 247; Am. Jour. Med. Sci., 1892, vol. ciii, p. 43.
13. Kelly: Jour. Am. Med. Assn., March 3, 1900.
14. Ceci: La Reforma Medica, Sept. 5, 1887.
15. Thornton: Harveian Lectures, 1889.
16. Lloyd: British Med. Jour., 1896, ii, p. 1206.
17. Morris: Hunterian Lectures, 1898, p. 77.

Warm Baths in Cerebrospinal Meningitis.—Dr. Osler is treating cerebrospinal meningitis with warm baths every third hour, and lays great stress in the prognosis on the tendency to relapse, the "intermittent" type of old American writers. There have been 9 deaths in 23 cases treated. No case of meningitis in typhoid fever has been seen in the Johns Hopkins Hospital. At least 8 different germs have in recent years been reported as the cause of acute rheumatic fever, all of pyogenic origin. Not a single death directly due to rheumatic fever has occurred in the eleven years since the hospital was opened, yet it is responsible for more deaths than any single fever; 75 per cent. of cases of valvular disease of the heart are its sequels. In Baltimore, in 1899, 500 deaths were attributed to heart disease. The chief indication in the treatment is relief of pain, which is often promptly secured by the salicylates, especially in children. Morphin should be given freely. In protracted cases he looks out for gonococcus infection and arthritis deformans. The salicylates do not protect the heart.

THE DIFFERENTIAL DIAGNOSIS OF ECTOPIC PREGNANCY.

WITH ESPECIAL REFERENCE BETWEEN IT AND THAT OF EARLY UTERINE ABORTION.*

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It may seem superfluous at the present day to read a paper on any topic in connection with ectopic pregnancy, for so much has already been written on the subject. But there is one phase of it which seems to me to have been overlooked, or at least not to have received the attention it merits. I mean the differential diagnosis, but more especially the differentiation of ectopic pregnancy from early uterine abortion.

The writer was the first to treat this matter at some length, in a paper published in the *New York Medical Record*, Nov. 5, 1898. The paper received such general appreciation that he feels warranted in bringing up the subject again before a class of men who usually see these cases before the specialist does and upon whose correct and prompt diagnosis the welfare, nay, the life of the patient frequently depends. He feels further justification, if such were necessary, in the circumstance that further experience has gained fresh examples whereby valuable lives have been jeopardized and even lost by confounding an ectopic gestation for an early intrauterine abortion.

The gynecologist never finds himself in a more distressing and embarrassing position than when he is called in a case of serious intraperitoneal hemorrhage from a ruptured tubal pregnancy, which for days and perhaps for weeks has been treated by the family physician as a mere miscarriage. There is no other mistake which the doctor could commit which receives less charity at the hands of the laity, and still it is a mistake of which the most astute specialist is occasionally guilty. From this you will infer that I am not one of those men who think the differentiation is always easy, and that all we have to do to avoid the error is to pin our faith upon one or two so-called pathognomonic symptoms. In my opinion men have frequently fallen into error just because they have accepted the dictum of writers who have laid great stress upon one or other symptom of extrauterine pregnancy. One would consider "colicky pains," another irregular hemorrhage after an amenorrhea of longer or shorter duration as pathognomonic; but of this later on.

The classic symptoms of ectopic gestation, such as irregular uterine hemorrhage after a variable period of amenorrhea, sudden seizure of severe pain of a certain character, the expulsion of a decidual sac, the presence of a characteristic tumor at either side of the uterus or in Douglas's cul-de-sac, are rarely witnessed at the bedside. Where they are present, as they sometimes are, the diagnosis offers no difficulties. But that the apparent association of these symptoms may at times lead to error, the following case occurring in the writer's practice will forcibly illustrate.

CASES OF INFLAMMATORY CYSTIC TUMOR.

A medical friend asked me to see a young woman who had been married but a few months. She had passed her period for about three days, when she began to flow, at first slightly and later quite profusely, and continued for a much longer time than was usual with her. The flow was rather irregular and was attended with severe pain which might be characterized as of a "colicky" nature. I found the patient moderately anemic, with a slightly distended abdomen. While the patient sat up in bed to urinate she had a fainting spell—a symptom upon which I had learned to place great reliance, excepting in very nervous patients, as a sign of intraperitoneal hemorrhage. On examination the uterus was found slightly enlarged, and to the left of it was an elastic mass the size of a hen's egg, which was very sensitive and apparently fixed. Owing to the great sensitiveness of the patient, the exploration of the pelvic cavity was attended with difficulty. I had no data to guide me as to whether the mass on the left side was of recent origin or not, the patient never having been examined prior to her present illness. Everything seemed to point to an early tubal pregnancy. Still, I took the precaution to say that, while the symptoms were indicative of that condition, it might be only a very early uterine abortion, associated with a cystic ovary. I advised that the patient be placed under narcosis for the purpose of a more satisfactory examination and for such surgical intervention as might be deemed necessary as the result of our findings.

This advice was adopted, as was also that of having another specialist present to examine her with me. As soon as she was under full anesthesia and relaxation of the abdominal walls was obtained, it was fairly easy to detect that the mass on the left side was cystic and probably was of the left ovary. After a thorough curettage, which removed very little tissue, the consultant was in favor of not doing anything more for the present and waiting for further developments. I prevailed upon him however to consent to my making an incision in the posterior vaginal vault, so that I could at one and the same time positively determine the character of the tumor and remove it. It proved to be a cyst of the size of a hen's egg, with very thin walls, and probably of an inflammatory nature. The adnexa were found moderately adherent, but otherwise apparently normal.

The patient made a satisfactory and afebrile recovery, and was out of bed at the end of ten days.

I have followed this plan of making an incision through the vagina into Douglas's cul-de-sac in quite a number of cases in which there was any doubt, and have always found it of great value. In more than one instance, had I not adopted this plan, the true condition would have been overlooked, for even under narcosis it was impossible by bimanual examination to determine the presence or absence of free blood in the peritoneal cavity. However, after making the incision and ascertaining the presence of a ruptured tubal pregnancy, unless the conditions were very favorable, the operation was completed by a suprapubic incision; but this is a digression.

These inflammatory cystic tumors are often cause of considerable anxiety, as is evidenced by the following case: I was examining a woman in rather prominent social circles one day in my office, for delayed menstruation and some discomfort in the lower abdomen. She was very stout and the bimanual examination was rather difficult. I found the uterus slightly enlarged and detected, to the left of this organ, a cystic mass the size of a mandarin orange. While palpating this mass it suddenly ruptured and the patient promptly went into syncope. It took some time before she rallied. I was in much dread that a tubal gestation sac had ruptured and that the effusion of blood into the peritoneal cavity was the cause of the syncopal attack. I had the patient carefully watched for a couple of days, and as there was no recurrence of the syncopal attacks and no other symptoms developed, I concluded that the mass which had ruptured and disappeared was nothing more than one of those inflammatory cysts which occasionally accompany localized peritonitis and subacute metritis. The subsequent history of the case proved my conclusion to be correct.

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* Read before the New York State Medical Association, at the annual meeting, held in New York City, Oct. 15-18, 1900.

ECTOPIC GESTATION VS. INTRAUTERINE ABORTION.

The following case in my own practice will show how easy it is to fall into the error of mistaking an ectopic gestation for an intrauterine abortion, and the importance of making an incision into Douglas's cul-de-sac when in doubt. I was called one morning to see a woman on whom I had performed an amputation of the cervix some years before. Her history pointed to a simple abortion at about the third week of pregnancy. A local examination seemed to confirm this diagnosis, for beyond a slightly enlarged uterus, with the cervix rather patulous, nothing was detected. It is true, the examination was not very satisfactory, owing to a thick abdominal wall and moderate flatulent distension of the intestines. She was admitted into St. Mark's Hospital to be curetted. When she was narcotized, on examining her I was surprised to find an ill-defined mass behind the uterus, which seemed to possess the characters of an inflammatory exudate. After curetting the uterus and removing considerable decidual tissue, I determined to ascertain the nature of the mass by vaginal exploratory incision. The mass proved to be made up of old and fresh blood clots; and as the ruptured tube was not accessible through the vaginal incision, I made an incision through the abdominal parieties and removed it. The patient made an uneventful recovery.

In the paper referred to I cited several instances in which the patients had been treated for weeks by the family physician, and had been repeatedly curetted for a supposed uterine abortion when the condition was that of a ruptured tubal pregnancy. Since then I have seen quite a number of cases in which a similar mistake had been made. I am not finding fault with the attending physicians for having made such an erroneous diagnosis, for as I frankly confessed, it is one we are all liable to make at times. But I do strongly condemn the plan usually adopted by the attending physicians in these cases—that of attempting to curette the uterus without general anesthesia. I say "attempting," for in early cases of abortion it is impossible, in the majority of instances, to satisfactorily curette the uterus, to say nothing of the practical difficulties to do it under aseptic precautions, unless the patient is fully anesthetized. What is the usual result of such a procedure? The uterine hemorrhage persists and the physician concludes that he has not removed all the uterine contents, and curettes again, also without anesthesia, and perhaps is forced to repeat the operation a third time if the confidence and patience of his patient have not already been exhausted. In many instances after the first curettage, done under imperfect asepsis, the patient is made septic, and what was a favorable condition is probably converted into a hopeless one.

The general practitioner should therefore make it a rule never to undertake to curette for a supposed abortion without anesthetizing his patient. Every case of supposed early uterine abortion should be looked upon with suspicion, and unless the case is an especially clear one and not requiring any surgical intervention, the patient should be anesthetized as early as possible. This is to be done first for the purpose of making a rigid and thorough examination to exclude an ectopic gestation, and secondly for the purpose of performing a proper curettage under satisfactory aseptic precautions.

The attending physician is often severely censured when the chief blame attaches to the patient, as is demonstrated in the following case. The patient, after a period of amenorrhea of seventeen days, began to stain; a week later she had abdominal pain, with the persistence of the slight flow. She made light of these symptoms and ignored the advice of her physician to be curetted. While at her place of business one day she expelled a mass which she asserted was the fetus; that it resembled the yellow of an egg and was not a mere blood-clot, as it failed to be broken up with the fingers. She triumphantly told this to her physician, and said: "I told you it would come away of its own accord; several others have on former occasions." About three weeks later she was suddenly seized in her store, while in the water-closet, with symptoms of collapse. She was brought home with difficulty, in a cab, and I saw her at 10 p.m., about six hours after the foregoing event. She was extremely anemic, with a pulse of poor volume, about 120 to the minute. She was apathetic and did not seem to suffer any pain. The abdomen was very large and fat and quite hard. On vaginal examination an irregular mass behind and to the left of the uterus could be felt. The diagnosis of a ruptured tubal pregnancy was made and an operation urged. Consent was finally obtained to perform it on the following morning. When the patient was placed on the table for operation she went into profound collapse, from which she did not rally and died about an hour later. The abdomen was rapidly opened. It was found full of blood and swimming among the clots was a fetus of about ten weeks. The family severely blamed the attending physician because he said it was only a slight matter and required an insignificant operation. Had he taken the precaution to say that a curettage under full anesthesia was imperative just as much to make certain that nothing but a uterine abortion existed as to empty the uterus, he would have averted all reasonable grounds for complaint, and the life of his patient might have been saved.

The foregoing case is of further interest in that it shows that the onset of uterine hemorrhage, and even the expulsion of a decidual membrane, are *not indicative* of the death of the impregnated ovum. These phenomena occurred when the patient was pregnant presumably six weeks, while the fetus showed a development corresponding to the age of ten weeks.

SYMPTOMS OF INTRAUTERINE PREGNANCY.

We may now profitably take up an analysis of the prominent symptoms of extrauterine pregnancy, comparing them with those of early uterine abortion.

Uterine Hemorrhage.—The flow attending a ruptured tubal pregnancy is as a rule less profuse and more irregular than that which accompanies uterine abortion. It is more likely to occur as a mere show which comes and goes, while in uterine abortion the flow is more continuous. Still, there are numerous exceptions to this rule. I have seen very profuse uterine hemorrhage in tubal pregnancy, and Martin reports a case in which it was so severe as to even cause the death of the patient. On the other hand, a threatened uterine miscarriage may drag along for a time with a very scanty flow, which may even be irregular, coming and going as it does in extrauterine pregnancy. I have now under observation a case of impending uterine abortion, in which the flow has been scanty for several days, in which it ceases during the night and while the patient is in bed. I recall other cases in which the slight flow would cease for a day or longer, even while the patient was up and about. However, when a woman has passed her period for a few days only and begins to have an irregular and scanty flow, a suspicion of extrauterine pregnancy ought to be entertained. On the other hand, I have seen cases in which rupture of an extrauterine pregnancy had taken place without the patient having missed a period. In one case rupture of the tubal pregnant sac had taken place seventeen days after the last menstrual flow, which apparently was normal in every respect. Similar cases have been recorded in the literature.

Pain.—A great many writers have laid great stress upon the "colicky" nature of the pain in extrauterine pregnancy. Some have gone so far as to deem it a pathognomonic symptom. Even if the same pathologic lesion occurred each time, and the sensations it produced were exactly similar, patients would describe them differently. But we know the lesions are variable; at one time there may be a rupture of the tubal sac, at another a mere expulsion of the fetal sac through the "ostium abdominale," constituting a tubal abortion; and again at another a hemorrhage into the tubal wall forming tubal mole. It is not reasonable to suppose that these different lesions would evoke exactly similar sensations, and as a matter of fact the character of the pain attending the termination of a tubal pregnancy is as variable as is the color of the chameleon. It may be sharp and lancinating, or it may be of a bearing-down character, as in dysmenorrhea, or it may resemble labor pains, or simulate an ordinary colic, or be characterized as a tearing, agonizing sensation which can not be endured; or, again, it may be of a throbbing nature, like that attending an inflamed ovary. The patients whom I have seen more frequently have described it as resembling the pain attending labor. It must not be forgotten in this connection that pain of any description may not form a prominent symptom of tubal pregnancy. In one of my own cases cited above, the patient made no mention of any pain, and in several other cases the symptom was confessed only after repeated questioning.

In my former paper I stated that the one symptom in my experience, that has afforded me the strongest clue, has been the occurrence of fainting spells with the attacks of pain. But I went on to say that too much reliance should not be placed upon this symptom, as it was frequently absent and was occasionally met with in uterine abortion in nervous and hysterical women. It was present in the case of early abortion, associated with an inflammatory cyst, reported in the early part of this paper. Still, with certain precautions, it forms a symptom of some value as indicative of intraperitoneal hemorrhage.

Expulsion of Cast.—The expulsion of a decidual cast or membrane from the uterus is an objective sign to which great importance has been attached. I can do no better than quote what I wrote on this topic in the article already referred to, inasmuch as increased experience has only confirmed the assertions made then. "In the first place there is no membrane discharged in a great number of cases, the decidua either being cast off in shreds or undergoing degeneration. In the second place it may be expelled unnoticed in the blood-clots. Thirdly, when questioned, the patient will often reply that she has passed a membrane, when what she actually passed was a semi-organized blood-clot. Lastly, and most important of all, is the fact that even the most expert microscopist can not distinguish between the decidual cells of a uterine pregnancy and that of a tubal gestation. This fact nullifies the advice given by some authors to curette the uterus in a suspicious case and examine the tissues removed for decidual cells. Not alone would the findings of decidual cells form no proof even of uterine pregnancy, for so able a microscopist as Carl Ruge[1] has stated that in the absence of the pregnant state he found decidual cells in diseased conditions of the uterus."

How misleading the statements of the patient are, even though they be intelligent, regarding this point, is forcibly illustrated by the fatal case reported in this paper. The patient was experienced in such matters, having had several miscarriages, and she was positive that what she had passed was a very small fetus. This assertion helped to throw the attending physician off his guard. Of course the detection of *chorionic villi* in the expelled products would be positive proof that the gestation was intrauterine.

The local signs of early extrauterine pregnancy are not characteristic enough to be of any value to us in doubtful cases. It is very easy to overlook or rather to be unable to detect the slightly enlarged tube on bimanual examination, especially in the presence of a thick or rigid abdomen. On the other hand, an inflamed and enlarged tube may possess all the characters of a tubal pregnancy. Some authors lay stress upon the vagina being soft and lax, and on the pulsations of the vaginal arteries. These signs savor too much of finesse to form safe guides in perplexing cases.

SOURCES OF ERROR IN DIAGNOSIS.

The principal sources of error in the differential diagnosis of ectopic pregnancy, besides the condition already mentioned, are the following: 1. Irregular enlargement or sacculation of the pregnant uterus, forming apparently an independent tumor. 2. A retroflexed pregnant uterus with a long cervix, the elongated cervix being mistaken for the whole uterus, and the enlarged uterine body in Douglas's cul-de-sac being taken for the extrauterine sac. 3. Great flaccidity of the abdominal wall and marked thinning of the uterine, giving the impression as if the fetus lay in the free peritoneal cavity.

Time will not permit the full discussion of these at present. I would refer those interested in the matter to my first paper on the differential diagnosis of ectopic pregnancy.

CONCLUSION.

The points I have endeavored to bring out in this communication, and which I would like to have discussed, are: 1. The frequency with which ectopic gestation is diagnosticated as early uterine abortion. 2. The advisability of looking with suspicion upon every case presenting apparently the symptoms of early uterine abortion, and if the case is not running a simple and natural course, to fully anesthetize the patient for a rigid examination and for the proper performance of curettage in the event of uterine abortion being present. 3. If after carrying out this plan there still be some doubt, the advisability of making a posterior vaginal exploratory incision to determine the presence or absence of blood in the peritoneal cavity and to be prepared to open the abdomen if the condition found calls for it. 4. The unreliability of the so-called pathognomonic signs or symptoms of ectopic gestation.

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[1] Centralblatt f. Gyn., 1881.

I. UNION FOLLOWING PATHOLOGICAL FRACTURE OF THE FEMUR DUE TO SECONDARY CARCINOMA.
II. SPONTANEOUS DISAPPEARANCE OF CARCINOMA OF THE LIP.*

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Spontaneous fractures have long been known to occur occasionally in the presence of carcinomata of various portions of the body. Particularly is this true of the harder varieties of carcinoma of the breast. Too much stress must not be placed, however, upon the older reports, because carcinoma and osteosarcoma were formerly confused under the generic term of "bone cancer."

It is generally admitted that these fractures may be due to metastasis or to abnormal fragility of the bones. The latter does not depend on the presence of carcinoma elements, but upon the development of a more or less general, simple osteoporosis, intimately but obscurely associated with the existence of the primary carcinoma, Richet and Verneuil being inclined to connect the phenomenon with the phosphaturia often existing in the later stages of carcinoma.

The bone most frequently broken is the femur, the humerus coming next, while multiple fractures are sometimes met with.

In spite of the peculiar nature of the accident, union occasionally takes place, and it would perhaps be seen more often if the average duration of life subsequent to the injury were greater.

In cases of simple osteoporosis repair is not infrequent, but it is extremely rare in the presence of secondary carcinoma. Ricard[1] even insists that but one unquestionable instance has been recorded (Küster); while Cornil and Ranvier[2] seem to doubt its occurrence at all. These, however, are extreme views.

Gurlt[3] has collected thirty-eight cases of spontaneous fracture in cancerous individuals—3 men, 35 women—among which were ten instances of union, apparently a remarkably large proportion. But, as Ricard justly remarks, it is impossible to say in how many of these simple fragility existed without the local presence of malignant deposits.

In August, 1897, I examined a well-developed Swedish woman, aged about 35 years. There was a firm carcinomatous nodule of moderate size in the upper outer quadrant of the right breast, which had attracted the patient's attention some six weeks previously. The axillary glands were enlarged and the skin slightly adherent, although the nipple was not sunken. In operating, I removed the entire breast, a considerable portion of the pectoral muscles, including all the fascia, and the entire axillary contents. Union was by first intention.

The growth soon returned locally, although I did not see the patient again until April, 1898. I again operated, removing the remainder of both pectorals and a portion of rib, which appeared to be slightly involved, and skin grafted the large denuded surface.

The patient returned during the following August, about one year from the time of the first operation. There was no local recurrence, but severe pain existed in the dorsolumbar region, and especially over the left kidney posteriorly and the left external surface of the pelvis.

In turning over in bed the left femur broke at the level of the lesser trochanter, producing marked shortening and deformity. There had been no pain or tenderness as low down as this, and nothing to call attention to the process going on within the bone.

Believing the accident to be due to secondary carcinoma, I informed the woman's husband that union would not occur. Merely as a matter of comfort, and for the purpose of relieving deformity, I applied extension to the limb, but did not reexamine it for four weeks, when I was astonished to find firm union.

Shortly after this the woman died, and I was able to secure the upper portion of the broken femur. The fragments were in perfect apposition, and so firmly united that no reasonable amount of force could move them in the slightest. Longitudinal section revealed a central carcinomatous deposit surrounded by a thin, hard shell of bone, which was smooth and of quite uniform thickness. This is not in accord with Volkmann,[4] who says: "A certain amount of union can take place through the formation of periosteal bridges." Gurlt and Stimson also hold the view that repair occurs through the junction of "osseous spicula." Microscopic specimens demonstrated clearly that the tumor had invaded the bone by way of the Haversian canals, leaving numerous small islands of unaltered osseous tissue surrounded by the malignant growth (Fig. 1).

Secondary carcinomata which grow rapidly are manifestly more liable to cause spontaneous fractures, but when these accidents do occur with deposits of slower growth, union is probably more apt to follow. We may likewise assume that, other things being equal, the slower the growth the less the pain. There is also no pain in simple osteoporosis. Hence the absence of pain, or its presence in moderate degree only would have some bearing on the prognosis.

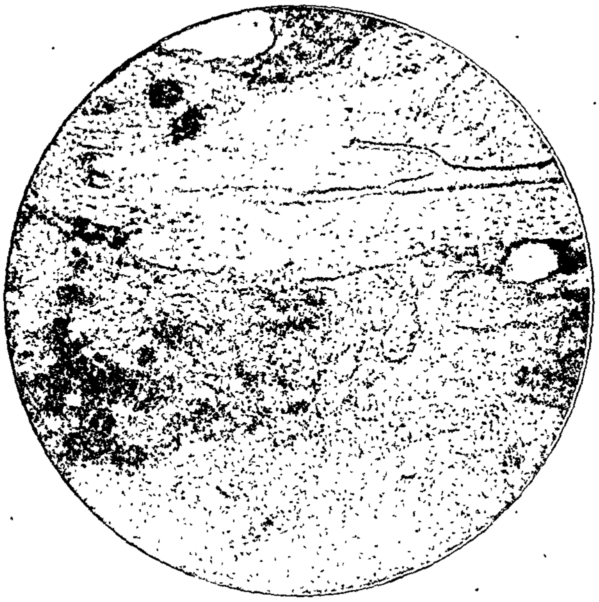

Figure 1.

We are not justified in believing that the mere presence of the malignant deposit exerts an inhibitory action on the process of ossification. The case just reported would tend to disprove this. We have to assume that the causes of non-union are: 1, death of the patient before new bone has had time to form; 2, extensive destruction of bone; 3, separation of the fragments by growth of the carcinoma between their ends. In this connection there is reason to suppose that tumors develop more rapidly after fracture, owing to decrease of pressure and increase of mechanical irritation.

Some practical deductions from a general consideration of the subject are: 1. Spontaneous fractures may occur during the course of carcinomata, especially those of long-standing in the female breast. 2. They may or may not be due to metastasis. 3. Local pain points toward malignancy, while swelling is of little diagnostic value, as it does not often appear until after the fracture has occurred. 4. However unfavorable the circumstances may seem, we must not be too hasty in affirming that union will not take place, but if it does and if secondary carcinomatous deposit has been the cause of the accident, the fracture will certainly recur if the life of the patient be sufficiently prolonged.

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* Read before the American Surgical Association, May 3, 1900.

3. See the discussion which followed the lecture delivered by him, in London, Nov. 28, 1900, at a meeting of the Society of Arts.

SPONTANEOUS DISAPPEARANCE OF CARCINOMA OF THE LIP.

Cases of spontaneous disappearance of carcinoma are extremely rare, even in the presence of the toxins of erysipelas. As regards the lip, I have been unable to find mention of a single instance; in fact, as Quénu remarks, "The prognosis is grave in all epitheliomata of the mucous surfaces or of the intermediary zones." Fibrous carcinomas of the breast, however, occasionally undergo spontaneous cure, especially in old women (Billroth), and Kaposi[5] asserts that superficial epitheliomata of the skin sometimes heal without treatment. Storck reports an epithelioma of the tonsil, which disappeared without interference, although recurrence took place in one year, necessitating resection of the lower jaw. E. Senger[6] claims to have seen certain tumors of the buccal mucous membrane, exhibiting all the microscopic evidences of carcinoma, vanish after the removal of jagged and irritating teeth. He agrees, however, with Gussenbauer, that they were probably not true carcinomata, the clinical evidence being, perhaps, more trustworthy than the microscopic in such cases.

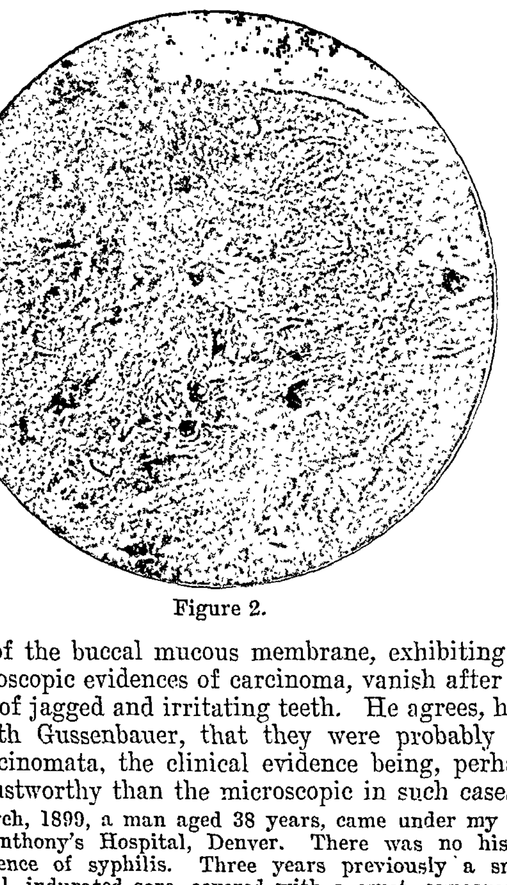

Figure 2.

In March, 1899, a man aged 38 years, came under my care in St. Anthony's Hospital, Denver. There was no history nor evidence of syphilis. Three years previously a small, superficial, indurated sore, covered with a crust, appeared on the right half of the lower lip, at the muco-cutaneous junction. It remained about one year, sometimes almost disappearing, and then enlarging to its original size. Occasionally the patient would dislodge the crust with his tongue. No treatment of any kind was employed, and there was no attack of erysipelas, but the ulcer finally disappeared and did not return, leaving a slight, scarcely recognizable scar.

Less than one year later, and nearly two years from the beginning of the disease on the lip, a movable, glandular swelling was noticed in the right submaxillary region. Nine or ten months later this was removed, local recurrence taking place within three weeks. Two weeks later another operation was performed, but the progress of the growth was but temporarily checked.

At the time of my examination a large, inoperable, deeply ulcerated, indurated tumor existed over the right inferior maxilla, the neck, and the side of the face. Microscopic sections revealed a typical epithelioma (Fig. 2). The prolonged administration of the toxins of erysipelas and prodigiosus produced no effect, and death shortly supervened.

I am well aware that microscopic evidence of the carcinomatous nature of the original ulcer of the lip is wanting in this case; but the circumstantial evidence is so strong as to admit of no reasonable doubt.

This anomalous cure might be explained by assuming: 1. Great general resistance to the invasion of carcinoma. We would then have to admit that this resistance was subject to variation at short intervals without apparent cause, or that it was much greater in the lip than in the submaxillary gland. 2. Slight virulence of the epithelioma. Here the hypothesis would be necessary that the virulence varied at different times and in different tissues. 3. The disappearance of some inhibitory product temporarily existing within the body. Which of these suppositions is correct must remain purely problematical.

BIBLIOGRAPHY.

1. Duplay and Reclus: Traité de Chir., 1890, vol. ii, p. 380.
2. Shakespeare and Simes: Manual of Path. Hist., 1880, p. 215.
3. Handbuch der Lehre von der Knochenbrüchen, 1862, S. 182.
4. Pitha-Billroth: Handbuch der Allgem. und Spec. Chir., 1882, B. v, S. 475.
5. Path. und Ther. der Hautkrankheiten, 1887, S. 871.
6. Centralbl. f. Chir., No. 30, 1894.

THE RATIONAL USE AND LIMITATIONS OF THERAPEUTIC MEASURES INTENDED TO PROMOTE THE ABSORPTION OF EXUDATES WITHIN THE EYEBALL. MEDICINAL MEASURES.*

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If there has been one branch of ophthalmology which has been neglected in our study and research, it is the general therapeutic measures. I know of only two works on the subject of general therapeutics in relation to the eye, which treat exhaustively—one is a little book called "Ocular Therapeutics," by Ohlemann, the other by Carl Ferdinand Graefe, father of the great Albrecht v. Graefe, and published in 1817. Ohlemann, in his preface says: "Since 1817 when Ferdinand Graefe wrote his 'Repertorium Augenärztlicher Heilmittel,' no attempt has been made to treat the remedial agents used in ophthalmology exhaustively, and to supply a treatise on the subject that might serve as a guide to the practicing physician. This is the more interesting when it is remembered that C. F. Graefe made the assertion that in no branch of therapeutics is the value so worthy of consideration as in ophthalmology."

We are very liable to lose sight of the fact that we are ophthalmic practitioners as well as ophthalmic surgeons, and we are prone to forget the general systemic remedies in our eagerness to use the knife and needle. Granting that general therapeutic measures have a certain usefulness in the cure of diseases in every organ of the body, why have we not given more attention and thought to this very pertinent branch, and some one of the profession in this line of practice directed his energy toward the compilation of an exhaustive text-book on this subject, which to my mind would be a most important adjunct to the literature we have regarding ophthalmology?

We all fully appreciate the dire necessity of administering general therapeutic remedies in certain ocular diseases dependent on causes which the ocular trouble is simply a manifestation of, sometimes grave systemic disorder, such as syphilis, tuberculosis, rheumatism, diabetes, etc., and in these troubles we could never hope to bring about resolution unless we resorted to the general therapeutic remedies; so, if this be true in any particular, why should it not be true in the great majority of ocular diseases, especially when it is remembered that here we have to deal with the most sensitive and delicate structure in the whole body, its blood supply being comparatively less than in any other organ; therefore, such blood should be of the purest kind, or laden with such remedies as will bring about the desired results.

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It has been a custom for years, in the treatment of ocular diseases, for me to first put my patients under the best hygienic environment possible, and give such general remedies as we would naturally expect to obtain the best results from in so doing. In the consideration of general therapeutic measures intended to promote the absorption of exudates within the eyeball, the field is practically unlimited, and if I were to enumerate all of the different drugs which from time to time have been recommended to promote the absorption of exudates, they would probably fill a good-sized book, and as a "limitation" has been wisely placed on this subject by the Chairman of this Section, who kindly invited me to make this address, I will confine my remarks to those therapeutic agents which in my own experience have proved efficacious. It is entirely unnecessary to begin this subject regarding the fundamental principles of general treatment, as every practitioner of medicine will readily appreciate the reasons for so doing. In cases of severe inflammatory conditions of the eye, it is of paramount importance that the subject should be at rest, and in my estimation we neglect placing patients in bed quite too often. If we made it a rule rather than the exception, I feel sure that better and quicker results would ensue from treatment; not only from the fact of the patient being at rest, but from what this entails, such as avoidance of sunlight and dust, extremes of temperature and other recognized irritants. We must watch symptoms and treat them accordingly, giving attention to the circulatory and respiratory systems, and especially to the secretory and excretory functions, and not only must these be inquired into at the first examination, but they ought to be constantly watched during the whole course of the disease. The old custom of giving an active cathartic in the beginning of all inflammatory troubles is a good one, as there are very few cases in which they are not indicated.

If our patient is suffering from pain and is restless, these conditions should be relieved, as all excitement of whatever nature must be controlled in order to put one in a favorable way toward rapid recovery. Blood-letting is no doubt very beneficial in certain acute inflammatory conditions of the eyes; in acute iritis, for instance, the trouble is very frequently controlled, and the effect of the local instillation of atropin is clearly seen after drawing from two to three ounces of blood from the region of the temple. The method employed is largely a matter of indifference with me; whether the natural leech is used or the artificial one of Heurteloupe, so far as I can determine, is immaterial, the object being depletion of the parts; however, the artificial leech is not so disgusting to most patients, and from this fact alone is preferable. In any event, the patient must be in bed and remain there several hours if any benefit is to be derived from blood-letting. Of all remedies, the so-called alteratives exert a greater influence in the absorption of exudates than any other class of drugs, by increasing nutrition and the constructive metamorphosis, and thus eliminate disease from the tissues. The iodids stand out pre-eminently as the most reliable; that they do promote absorption of inflammatory effusions and inflammatory thickenings is conceded. Iodid of potassium or iodid of sodium is generally given; the latter is usually better assimilated and does not produce the disturbance in the stomach which the potassium will sometimes bring about. The dose to be administered is very important; frequently I have patients who have been referred to me by physicians, and on questioning them in regard to the number of drops taken at home, they tell me they had been taking ten drops three times daily. This is perfectly absurd, because, if we would expect to obtain results from this remedy, the dose must be steadily increased to the point of iodism, and this point can not be reached by giving small doses, as iodid of potash is very rapidly eliminated from the system, unless perchance a patient is met with who has a peculiar idiosyncrasy in this respect. It is not an uncommon thing to give as much as 200 drops of a saturated solution of iodid of potassium three times daily at Hot Springs; of course, in conjunction with the hot baths larger doses can be borne here than elsewhere, but 1 to 2 drams can be taken at a dose without the baths and no bad effects be seen. It has been my experience to see exudates disappear time after time under the larger doses, when the smaller had no appreciable effect. It is necessary to give some form of mercury, in fact it is a routine practice with me to begin treatment with inunctions, and after a thorough course has been given the iodids are then administered. It is not the rule usually to give mercury, especially in tertiary syphilis, but my experience has taught me to rely on this remedy in all such cases, as better results are obtained after a thorough course of inunctions, and I consider mercury a very important factor in the absorption of exudates. One dram is rubbed into the skin each day, and this is continued until the point of ptyalism is reached, or, which is more important, the hemoglobin is decreased. Neuman, Nothnagel and others have demonstrated the effects of mercury on the blood, both in small and tonic doses, and in the larger ones. They showed that mercury in small doses increased the hemoglobin, but in large doses long continued it decreased this important element, hence was detrimental; therefore, it behooves us to use the microscope and be on guard lest we produce some serious trouble in the kidneys, as it has also been demonstrated that after long-continued use of mercury, casts are found in the urine, to disappear after the remedy is discontinued. When it is given by inunction, it does not have to pass through the portals of the liver and more readily reaches every tissue and organ through the white blood cells. Generally speaking, inunctions for three or four weeks in moderate daily doses carry the patient to the top of the hemoglobin hill, and everything beyond is hurtful. The blood should be examined at the beginning of a mercurial course, as well as the urine, and these ought to be watched during the whole time.

Mercury and the iodids are not alone beneficial in removing exudates caused by syphilis, but in many other etiologic conditions, so in these two remedies we have the sheet-anchor. Among the diaphoretics used to promote the absorption of exudates, probably pilocarpin has first place, as it will unquestionably produce profuse diaphoresis, and by so acting effusions are more readily absorbed; especially is this true if the patient will abstain as far as possible from liquids, not only during the time the sweating process is in operation, but for hours afterward. Taken in 1/4-grain doses hypodermically, the effects are quickly seen; it is in those cases where prompt action is necessary that this drug is strongly indicated. The patient should be placed in bed before the injection is given, with woolen blankets under and over him to get the best results from this remedy, as the sweating process is thereby prolonged.

Salicylate of sodium is another remedy of marked virtue in the absorption of exudates, especially in cases of rheumatic origin or uric-acid diathesis. Thirty grains well diluted in water every four hours acts well in many cases. If one of the digestive ferments, such as pepsin, is given along with the salicylate, the distressing stomach disturbance often seen after large and continued doses of this drug will be greatly obviated. Aminoform is a remedy that I have recently used as a substitute for salicylate of sodium, as it was claimed that it did not produce the stomach disorder which large and continued doses of salicylic acid would bring about. It is soluble in water and is given in 10-grain doses every four hours. I have found it very beneficial in rheumatic iritis; it not only relieves the inflammatory condition, but also the pain which usually accompanies it.

In hydrotherapy we have the most valuable adjunct to the administration of internal remedies. The absorption of exudates is brought about through elimination, and certainly in hot baths this is shown most beautifully. The method employed at Hot Springs, in giving the baths and remedies, I believe to be superior to those of continental Europe, so I shall therefore give the routine way of prescribing them at Hot Springs. The natural heat of the waters from different springs ranges in temperature from 96 to 157 degrees F., so it is necessary to temper the hot water with water which the night before has been allowed to run into a "cold water" tank from the springs, and is therefore cold. The temperature of the baths is usually about 98 F., but if active diaphoresis is desired the temperature is sometimes increased to 102 F. The patient stays in the tub ten minutes, and during this time drinks two or three cupfuls of hot water. I may say that the bath-houses are so constructed and equipped that it is almost imposible for one to "catch cold" after the bath has been taken, as there are a series of rooms kept at different temperatures, the patient being taken from the tub to a temperature which is the same as the bath, or in case profuse sweating is desired, to a warmer room, and then to a cooler one, until finally he is in the same temperature as on the outside. After coming from the tub, an attendant with crash towels rubs him thoroughly, a bath-robe is placed around him and then he lies down on a wicker couch fifteen minutes or more with bath-robe and heavy towels over him, to go through the sweating process.

The place wherein the bath is taken constitutes a very important element, as it has frequently been my experience to see patients who have taken the baths in their rooms at the hotels with the same water, but under different conditions from the regular bath-houses, not do so well until a change has been made to the latter. When it is not possible for one to avail himself of the opportunity of taking the baths as just described, a special steam-heat apparatus has been devised for producing diaphoresis, but as I have had no experience with this method, I will not go into details; however, with proper precautions and surroundings I believe it to be reliable.

If mercury is indicated during the course of baths, it is rubbed into the skin each day after the patient has taken the bath. This is done by a trained attendant, who, with rubber gloves to protect his hands, continues to rub until the mercury is thoroughly absorbed by the skin. The patient is not allowed to perspire freely during the course of mercury, only enough to keep the pores of the skin open for the reception of the drug. After the course has been completed, the patient is given vapor baths for a few days to eliminate any excess of mercury which may be in the system; he is then ready for the course of iodids, taking the baths usually through the entire course. It is better to have the inunctions administered by a trained attendant, as experience shows that the patient will not as a rule devote the proper time and attention to the rubbing.

In the internal administration of mineral waters to produce the absorption of exudates, I have had little experience, as usually the methods already described have been satisfactory. It is a question in my mind whether they exert their usefulness through any mineral properties they may contain, or whether it is in the great quantity of water taken into the system which will necessarily stimulate elimination.

The limitation of therapeutic remedies used to promote the absorption of exudates is very circumscribed in a way, and after all has been said, alteratives, mercury and iodids, pilocarpin, salicylate of sodium and the hot baths constitute about the whole number of remedies on which we can place much reliance. Exudates of specific and uric acid origin can without question be controlled, but in other cases we are frequently disappointed, do what we may in the case.

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SUPPURATING MASTOIDITIS, WITH THE REPORT OF CASES.

SUPPURATING OTITIS MEDIA, BOTH EARS; SUPPURATING MASTOIDITIS ON THE RIGHT SIDE, ABSCESS EXTENDING INTO THE DEEPER TISSUES OF THE NECK, AND EXTRADURAL ABSCESS.

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The following cases represent some of the various forms of mastoiditis resulting from epidemic influenza, and are instructive as they do not all present the uniform indications for operation.

CASE 1.—I saw this patient, a boy 6 years of age, May 1, 1897, in consultation with his family physician, Dr. G. L. Magruder, who gave me the history of a case of suppurating otitis media in both ears, resulting from epidemic influenza. The little patient was extremely emaciated, with a small and feeble pulse; there was a profuse purulent discharge from both external auditory canals, and over the right mastoid region, extending back toward the occiput and downward into the neck for several inches, there was a large boggy swelling, very sensitive to pressure; the right auricle was also very prominent. There were no brain symptoms, as far as could be ascertained. An operation having been decided on, the following morning, May 2, the child was etherized, and the head shaved in the region of the operation; an incision was then made in the swelling, commencing just above the auricle, and extending downward some distance on the neck. Following the free incision there was a profuse discharge of pus, which was found to be flowing from a fistulous opening in the upper part of the mastoid bone, the whole outer layer of which was in a highly necrosed state. This was removed with the chisel and gouge, and it was then discovered that the whole mastoid

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process was badly diseased. The pus, finding a second exit through a large fistulous opening in the tip of the process, had burrowed its way into the deeper structures of the neck.

With a sharp curette all the diseased bone that could be felt was removed, and in so doing the lateral sinus was exposed to nearly its full extent; but as it was soft to the touch *it was decided not to make an exploration of it. In working* upward, a collection of pus was discovered between the dura mater and the roof of the mastoid antrum, and, after a complete removal of all diseased bone in this region, the dura mater was found to have been exposed from 1½ to 2 inches. The wound was thoroughly cleansed with a solution of bichlorid of mercury, 1 to 3000, and packed with iodoform gauze.

Before operation the thermometer by the axilla registered 99.4; after the operation, by the mouth, 103.2. The patient rested well during the night.

May 3, at 8 a.m., the temperature was 98.4; 12 m., 102.5; 8 p.m., 103. No record of the pulse could be kept, owing to the extreme irritability of the patient. He rested fairly well during the day, and did not complain of pain.

May 4, at 8 a.m., the temperature was 102; 12 m., 102.2; 6 p.m., 103.4. The patient was extremely restless during the day.

May 5, with Dr. Keen in consultation, the dressings were removed and a thorough exploration of the wound was made. There was some further diseased condition of the bone discovered and this was removed. The wound in the neck was further extended to within two inches of the clavicle. Although no further purulent collection was found, the tissues themselves were in a sloughing state; this was scraped away as thoroughly as possible, and the wound packed with iodoform gauze. Owing to the left mastoid process showing some redness and tenderness on pressure, a free incision was made back of the auricle, through the periosteum, and the antrum opened, but nothing beyond a high degree of congestion was observed, and the wound was then closed. At 8 p.m. the temperature was 105, and he was slightly delirious.

May 6, reports showed he had slept very little during the night. At 8 a.m. his temperature was 104.3; 12 m., 104.2; 8 p.m., 103.2.

May 7, at 8 a.m., the temperature was 103.3; 12 m., 103; 8 p.m., 103.4. There was little or no change in the patient's general condition.

May 8, at 8 a.m., the temperature was 100.4; 12 m., 100.4; 8 p.m., 101.4. The wound was dressed, and showed a decided improvement.

May 9, at 8 a.m., the temperature was 100.2; 12 m., 100.2; 8 p.m., 100.4. The patient was very much stronger and less restless.

May 10, at 8 a.m., his temperature was 99.4; 12 m., 100.1; 8 p.m., 100.4. The wound was dressed, the slough coming away in small pieces.

May 16, the slough having been detached in large masses, a healing granulating surface was left. The patient was etherized, the edges of the wound in the neck freshened and united by means of eight sutures. Good union was obtained, except for an inch of the upper portion of the wound, which was broken open by the constant movement of the child's head. The rest of the wound continued to be dressed every third or fourth day with iodoform gauze, and in the course of a few weeks gradually closed.

This patient made a slow convalescence, but finally made a good recovery, and is now in robust health, with good hearing for the voice and watch.

ACUTE SUPPURATING OTITIS MEDIA, SUPPURATING MASTOIDITIS.

Case 2.—Alice, aged 4 years, was seen by me on Nov. 21, 1899. Her family physician stated that after an attack of influenza an abscess developed in the right ear. This was quite persistent, and did not yield to treatment. In the course of three or four weeks the mastoid commenced to show signs of being involved.

When first seen by me there was a profuse purulent discharge from the right external auditory canal. The mastoid was only moderately swollen, but quite tender on firm pressure. There was no elevation of temperature.

The patient was admitted to the Episcopal Eye, Ear and Throat Hospital, and on the following day the mastoid was opened. After detaching the periosteum the cortex immediately over the antrum showed signs of softening, while that over the remainder of the process was firm. The antrum was opened with a chisel, and was found filled with pus. The probe revealed an advanced state of caries, both toward the aditus, and in the cells as far as its tip. The cortex was removed as far as the tip of the process, and all diseased bone scraped away with the curette. The cavity was packed with iodoform gauze, which was carried well up toward the tympanum.

This patient made a rapid and uninterrupted recovery, and was discharged from the hospital at the end of the third week, cured.

ACUTE SUPPURATING OTITIS MEDIA.

Case 3.—Eva A., white, aged 8 years, was admitted to the Episcopal Eye, Ear and Throat Hospital Jan. 1, 1899, giving a history of an acute suppurating otitis media on the left side, of three weeks duration, following an attack of influenza. No clear idea could be obtained as to the form of treatment adopted before entering the hospital, except that the physician had prescribed drops for the ear.

On admission the child was very much emaciated, exceedingly nervous, and with a temperature of 100 degrees.

On examination there was observed a profuse purulent discharge from the left external auditory canal; no swelling over the mastoid, but from about the tip of the process extending down into the neck there was a swelling about the size of a pigeon's egg, very painful to the touch. There was little or no sensitiveness over the mastoid process. After preparing the parts for operation, the child was placed under ether, and an incision, commencing just above the auricle, was carried down over the mastoid process into the swelling in the neck: in doing this a large quantity of pus was evacuated. After detaching the periosteum from the mastoid process, the cortex portion was found to be in a healthy condition; a curved probe, however, could be introduced at the tip of the process, and carried some distance upward. The antrum was then opened, found filled with pus, and, with the rongeur, the cortex as far as the tip was removed, revealing an entire breaking down of the mastoid cells, the pus finding an exit into the tissues of the neck through the very thin walls of the cell in the tip of the process. Caries was found to have extended upward for some distance, as well as toward the tympanic cavity. This was very thoroughly removed with a sharp spoon, and the cavity packed with iodoform gauze.

The temperature for several days ranged from 100 to 101, after which it fell to 99.4, but the slightest excitement would cause it to rise.

The subsequent dressings were conducted with some difficulty, owing to the exceedingly nervous condition of the child, but she finally made a complete recovery, and was discharged from the hospital at the end of the sixth week, with the wound completely healed.

CHRONIC SUPPURATING OTITIS MEDIA, SUPPURATING MASTOIDITIS.

Case 4.—Bessie M., white, aged 13, on admission to the hospital, gave a history of a chronic purulent discharge from the right ear, of several years' duration. During a recent attack of influenza the discharge was greatly increased, and at the same time there was considerable swelling and tenderness over the mastoid process. There was also marked cerebral irritation, manifested by delirium, which passed off with the subsidence of the attack of influenza.

On examination, quite a profuse discharge from the right external auditory canal was observed coming through a large perforation in the posterior inferior quadrant of the membrana tympani. There was no pain over the mastoid, but she suffered from headaches referred to the right temporal region. On firm pressure over the mastoid there was slight *pitting*. Temperature was 99.2 F.

The patient was prepared for operation, and, on the day following her admission to the hospital, the mastoid was opened in the usual manner. The antrum was found filled with pus and granulation tissue. The caries, which was extensive in this region, did not involve the lower mastoid cells, but extended upward and toward the middle ear cavity. This was completely removed with a sharp spoon, and the cavity packed with iodoform gauze. The day following the operation the temperature rose to 100, but dropped to normal on the following day, and remained so during the patient's convalescence.

This patient made a rapid recovery, and was discharged from the hospital in two weeks, cured.

SUPPURATING OTITIS MEDIA, SUPPURATING MASTOIDITIS.

Case 5.—R. L. T., white, aged 24, consulted me on April 20, 1899, complaining of a suppurating otitis media on the right side, of six weeks' duration, following an attack of influenza.

On examination, a profuse creamy purulent secretion was observed, coming from the right external auditory canal; this, when cleared away, was observed to come through a perforation in the anterior inferior quadrant of the membrana tympani. This membrane was very much swollen and congested. The upper and posterior wall of the canal bulged somewhat. There was no swelling, and no pain over the mastoid process, except a very slight sensitiveness on firm pressure over the tip; but no more pain than was caused by the same amount of pressure on the tip of the corresponding mastoid process. The temperature was 100.

The patient was admitted to the Episcopal Eye, Ear and Throat Hospital the same day. Not being quite sure as to any mastoid involvement, he was kept under observation. On the second day after admission the temperature rose to 101.3, with little or no tenderness on pressure, and no swelling of the mastoid. He, however, complained of severe headache referred to the right temporal region. Believing there was an abscess in the mastoid process, he was prepared for operation, which was done on the following day.

On stripping the bone of its periosteum, the cortex was found in a healthy condition, but as soon as the antrum was opened pus flowed most profusely from the opening. This continued to flow for some minutes, without any diminution, but it finally gave way to a severe hemorrhagic flow, and it was only after the continued use of hot applications that this could be checked. As soon as this was done, however, the opening was enlarged, and the whole mastoid process was found to be one large pus cavity. The cortical portion was removed as far as the tip, and all caries, which was also found extending into the tympanum, was scraped away. In doing so the lateral sinus was exposed to nearly its full extent, but was found intact and in good condition. The middle ear and mastoid cavities were irrigated with a solution of bichlorid of mercury, 1 to 3000, and packed with iodoform gauze. His temperature on the evening of the operation fell to 98 F., and during his convalescence ranged from 98.4 to 99.4.

This patient was discharged from the hospital at the end of the third week, with the mastoid wound not quite healed, but otherwise well, and with normal hearing.

In selecting these cases from my service in the Episcopal Eye, Ear and Throat Hospital, it was with the view of presenting different phases of mastoid disease complicating epidemic influenza, and with the hope that they might elicit some discussion that would enable us to formulate some definite rules which will enable us to decide when to operate.

Depopulation of India.—Since 1896 it is estimated that five millions have died in India from causes due to the famine. In western India matters are far worse. The latest advices from Simla say the census returns of the central provinces show a decrease of over a million since 1891, when an increase of a million and a half might have been expected. The Oodeypoor State returns show a decrease of 840,000 or 45 per cent. of the population: the State of Bhopaul shows a decrease of 808,000; the District of Banda a decrease of 124,000, and soon in Bombay City the population will have diminished by 50,000. The localities which have escaped the plague show a satisfactory though uncompensating increase. Madras, for instance, has gained 8 per cent. over 1891.

REMARKS ON THE AFTER-EFFECTS OF OPERATIONS FOR THE REMOVAL OF ADENOID TISSUE AT THE VAULT OF THE PHARYNX.*

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In view of the great frequency of operations for the removal of adenoids from the nasopharynx, it is a little surprising that serious accidents or sequences are not more often heard of. For this reason it might seem superfluous to the philosopher for any one to attempt the awakening of apprehension over so simple and safe a surgical procedure as this one; still, it is not by any means entirely devoid of grave complications. Having met with a few cases where the operation was followed by troublesome results, it will not be amiss to bring the subject before the Section for discussion.

Classification.—For convenience of consideration, cases of adenoids or lymphoid hypertrophy at the vault of the pharynx may be classified as: simple, or those cases presenting enlargement or overgrowth of the lymphoid tissue at the vault of the pharynx only; and, complex, or those cases in which the enlargement is either dense or encapsulated and accompanied by hypertrophy of the faucial tonsils, the peritonsillar tissue and possibly the turbinated bodies. The untoward effects of removal of adenoids—either with the curette or forceps—may be classified as immediate and remote. The immediate effects may be considered as: hemorrhage; injury to pharynx; reactionary acute inflammation affecting the pharynx, larynx and tonsils, ear, accessory cavities; and sepsis.

Among the remote effects may be considered subacute disease of the pharynx, chronic diseases of the ear, diseases of the accessory sinuses, and tuberculosis.

Hemorrhage.—This, to an alarming extent, is not frequently encountered, excepting in hemophilia; nevertheless, there are several cases of fatal hemorrhage on record. There are but few reliable premonitory signs. Among them may be mentioned a highly vascular and villous character of the overgrowth and a cachectic or scorbutic appearance of the patient. Sometimes, however, a very smart hemorrhage may follow the evulsion of a hard lobulated mass of adenoids. Whenever suspicious indications are present the growths should be removed by means of the galvano-cautery loop applied at a red heat.

Effects.—Unnecessary injury to the nasopharynx or Eustachian tubes may be produced by either a badly-adapted curette or the exercise of too much force. Cutting forceps, as well as the curette, may be made to produce similar results. Unusual reactionary inflammation, however, of the parts operated on, and also of neighboring regions, such as the middle ear, faucial tonsils, accessory cavities and larynx may occur under the best management. The writer has met with several unfortunate occurrences of this sort which could not be properly accounted for. In one case the operation was followed by a very severe peritonsillitis, and, in another, "a run" of facial erysipelas. In each of these cases the ordinary antiseptic precautions were taken, and the subjects were apparently in good condition. The writer saw two cases, in consultation, of severe peritonsillitis following adenoid operations in patients who were suffering at the time from gonorrhea, and one case of severe laryngitis following curettement. More than ordinary reactionary inflammation is likely to follow all such operations if the patients are just recovering from influenza, diphtheria or the exanthemata. Indeed, it has been pointed out, by many writers, that these operations should be avoided during the prevalence of influenza, diphtheria and other epidemic infectious diseases. Inflammation of the middle ear and accessory sinuses may follow these operations. Such unfortunate circumstances, however, usually pass off in a few days, but may remain as subacute catarrhal inflammations or terminate in purulent inflammation. A few cases of general sepsis following these operations are recorded, but, happily, not many. The writer has seen one case, with meningeal symptoms, which terminated fatally. Among the remote effects sometimes ascribed to adenoid operations are subacute and chronic inflammation of the middle ear or accessory sinuses. The middle ear, however, suffers much more frequently than the other regions mentioned. Inflammation of the middle ear, under some circumstances, will follow the operation, notwithstanding great care in the manipulation. The general supposition is that these untoward effects are always due to a lack of antiseptic precautions, such as improper cleansing of the nasopharynx and incomplete sterilization of the instruments used. I think, however, that this criticism in many instances is unjust, for I have met with cases of this sort where every possible preliminary antiseptic precaution has been taken. A few cases have been reported of chorea and other neurotic affections having followed these operations in weakly children. The writer has never met with any such instance and is inclined to regard the appearance of such affections at such a time as merely coincidental. Much has been written concerning the induction of tuberculosis of the nasopharynx, and tuberculous adenopathies, by adenoid operations. Several well-authenticated cases in Europe and in this country have been reported. The writer, however, has never met with a case excepting in subjects who were some time previously tuberculous. Undoubtedly this danger has been very much overrated, judging from the very few well-established cases reported. One can easily understand that an operation of this sort, upon a tuberculous child, may lead to an outbreak of the disease in the nasopharynx, or in its vicinity. It seems unnecessary, however, to add that a practitioner of good judgment would hesitate to remove adenoids in such a patient unless the necessity were very pressing, and, when such is the case, it is obvious that the galvanocautery should be selected in preference to the curette or the forceps. With the complicated cases—such as those attended by hypertrophy of the surrounding lymphoid tissues and turbinates, the question often arises as to whether all of this tissue should be operated on at once or by successive stages. In the writer's experience the reactionary inflammation can, as a rule, be measured by the extent of the wounded tissue. It seems to me that it may be laid down as a rule that much more trouble may be expected after an operation including the removal of the adenoids, faucial tonsils and peritonsillar tissue at once, than if only one of these regions be operated on at a time. Notwithstanding this, if the subject be healthy and the surrounding circumstances favorable, there can be no serious objection to clearing out the whole obstruction to the pharynx in the majority of instances. Regarding the regrowth of adenoids, the consensus of opinion seems to be that regrowth seldom takes place when the tissue has been thoroughly removed. The writer, however, has met with three instances of such an event after thorough removal of the hypertrophied tissue at the vault of the pharynx. This experience coincides with that of several other laryngologists, and is a point which certainly deserves attention.

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MEDICAL TREATMENT OF ACTINOMYCOSIS.

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In presenting the following cases of actinomycosis I have selected, with one exception, only those in which I have been able to verify the diagnosis with the microscope. My chief object in reporting them is to call the attention of the profession: 1, to the frequency of the disease, especially in agricultural communities; 2, to direct attention to a mode of treatment that has proved very satisfactory in all the cases coming under my observation for the past two years:

Case 1.—Mrs. D., aged 29, a farmer's wife; had good health prior to her present illness, but for two years hard lumps or swellings had from time to time appeared about the lower jaw. Four times the swellings had been incised and cleaned out with a sharp spoon. After this procedure the disease would be quiescent for a month or two, and then the swellings would recur.

At the time I was called to see her, Aug. 24, 1898, she was very much emaciated, with marked pallor. The lungs, heart, liver, spleen and kidneys were normal except for polyuria; her appetite was poor, there was constipation, and she was seven months advanced in pregnancy, and troubled with insomnia. She presented an enormous swelling of the right side of the face. A sinus that would admit the little finger led down to a piece of nickel-sized, denuded bone of the lower jaw. The sinus was lined with ill-nourished granulations, and discharged a thin whitish pus. The surrounding tissues were very firm, almost bony hard; surrounding the area of hardness and gradually shading off was a zone of edema, involving the temple, right cheek, upper and lower lips to the median line. Trismus was marked; she could scarcely separate the teeth.

During the week before my visit the swelling had been very painful, the pain being so intense as to prevent her sleeping for three or four nights. Prior to that time she had suffered comparatively little pain. The second lower right molar was carious. The temperature was 101.

I directed that the sinuses be washed out with peroxid of hydrogen, followed by Lugol's solution. Internally I gave iodid of potash grains v, four times daily, with laxatives, and began the injection of 15 minims of a 1 per cent. solution of iodid of potash into the tissues. The effect was very striking. Three days after the first injection the swelling had subsided, the pain had almost entirely disappeared and the temperature had fallen to the normal; it never went above 99 degrees during the subsequent course of the disease.

The patient reported that in a few hours after the injection there was an increase in the swelling, but it began to decline after twelve hours, and at the time of my visit, three days after the hypodermic, the swelling was decidedly less than at my previous one. I mention this because I have since found it a constant manifestation following the injections, i. e., a temporary increase in the swelling, reaching its acme in about six hours, remaining stationary for about six hours, and beginning to subside in twelve. By the end of the third day the swelling had disappeared, with a decided decrease of the original swelling.

Her subsequent recovery was rapid and uneventful, except for iodism, which appeared in March, 1899. She had been taking 15 grains of iodid four times daily and had been given hypodermics every three or four days during October and

November, every six days during December, three times in January, and three times in February, 1899.

By March 1 the swelling and induration had almost entirely disappeared, and the trismus was gone. I left off the iodid and the symptoms of iodism quickly disappeared. July 29, Aug. 12, and Sept. 15 I gave her hypodermics to clear away the last vestiges of the swelling and induration. The patient had in all forty-one hypodermic injections.

I neglected to state that she was delivered Oct. 23, 1898, after a normal labor which was followed by a perfectly normal puerperium. The urine, low in specific gravity, showed some albumin all through September, but this disappeared by November, 1898, and the specific gravity returned to the normal. This patient has presented herself for examination several times since the last-named visit, but has never at any time shown any evidence of the disease. A noticeable feature of the case has been the improvement in the scarring; from a large, depressed, adherent scar, the case now presents a movable, scarcely noticeable one. The general health is excellent, with no vestige of the local trouble.

Case 2.—N. R., a male, aged 28, came to my office March 18, 1899, for examination and operation. His general health had always been good. For two years he had had a sinus 2½ inches in length running horizontally beneath the skin, just above the hyoid bone, discharging a thin white pus; the surrounding tissues indurated. The pus showed the ray-fungus under the microscope, as did also the granulations. The internal organs and urine were normal. I advised iodid of potash internally and hypodermically, and injected the sinus with peroxid of hydrogen, followed by Lugol's solution.

The patient declined treatment, as he expected to be married in two weeks, and insisted on an operation. I opened the sinus, curetted thoroughly, cut away all suspicious tissue with the scissors, covered up the wound by sliding the skin, put in a silk thread drain and dressed it antiseptically. I removed the drain on the third day, injected the wound with a 1 per cent. solution of iodid every day, and began the administration of iodid of potash internally. The wound healed perfectly and promptly, much to my surprise, as experience has taught me that these old sinuses about the neck rarely heal up promptly; by March 28 it was entirely healed. He continued the iodid for two months. A recent letter from him says he is well, with no evidences of the trouble.

Case 3.—A. B. N., aged 63, a farmer, consulted me first on June 26, 1899. His previous health had been good. Sept. 1, 1898, he was sitting on a board fence with his thumb-nail resting on the top board. A neighbor came along and rudely jerked his hand, tearing the nail off. During the autumn months he gathered his corn with the thumb imperfectly protected, and was also at this time treating a lumpy-jawed cow. The ungual phalanx of the left thumb was very much enlarged, hard, and ulceration over the matrix of the nail. As I picked up his hand to examine it my eye lighted on a sulphur-yellow granule in one of the granulations. I removed it, and under the microscope it showed the ray-fungus.

I put him on iodid of potash and gave him peroxid and Lugol's solution for a wash, to be used twice daily, and directed the wound covered with borated gauze. I administered, hypodermically, a 1 per cent. solution of iodid of potash every third or fourth day. The secondary swelling following the hypodermic administration of the iodid was so painful that after two weeks he insisted on an operation, and I amputated the thumb. The subsequent course was uneventful, and there has been no recurrence. My mistake in the case was, I believe, in giving 15 minims of the solution; if I had only given 5 minims every third day I feel that the hypodermic medication might have been more satisfactory.

Case 4.—F. M., aged 70 years, an attorney, suffering from diabetes mellitus, frequently picked his teeth with a straw. He consulted me first in June, 1899. He had noticed a swelling the size of a hazlenut on the lower jaw two months before, and had consulted a dentist, who said his trouble was dependent on an improperly filled tooth; he removed the filling, but was unable to detect anything wrong with the tooth or establish any connection between the tooth and the swelling. I found a hard, firm filbert-sized swelling on the outer aspect of the lower jaw, corresponding to the lower, left, first molar tooth. I incised the swelling and found a small collection of pus, thin, whitish, containing whitish-yellow granules. The microscope showed actinomyces. I cleaned out the abscess cavity with peroxid of hydrogen, swabbed it out with tincture of iodin and packed it with iodoform gauze, treating it daily for two weeks, every other day for four weeks. Recovery was gradual, but apparently perfect, at the end of two months.

Case 5.—I was called to see A. H., a farmer and stock feeder, aged 53, on June 14, 1899, Dr. Clearwater in attendance. Prior to this illness his general health had been good. For one year he had been annoyed by a dry, irritating cough, with no expectoration, and during the preceding three years had frequently assisted in the treatment of big-jawed cattle. For four days prior to my visit he had suffered from headache, malaise, slight febrile movement, dyspnea and aggravated cough. Two days after the onset of his illness, after a violent paroxysm of coughing, he felt something in his throat that he thought was a piece of timothy straw. Its presence occasioned a choking sensation, and he thought he swallowed it. Following this paroxysm he began expectorating blood-stained pus with a very offensive odor. He would be attacked by a violent paroxysm of coughing, after which he would expectorate freely.

At the time I saw him he was pale, his pupils dilated, his voice feeble, although the patient was about the house. Anteriorily, on the right side, there was an area of dullness, a finger's breadth out from the sternum, reaching from the first intercostal space to the third rib, and shading off laterally. The resistance to the finger was marked. Bronchial breathing, and large and small mucous râles were present. Posteriorly, there was a corresponding area in the right interscapular region, with similar physical signs, the axillary region dull in the upper part; aside from the above-described area and an occasional râle, the lungs were free. The heart was slightly dilated, the sounds normal. The liver and spleen were normal. The urine had a specific gravity of 1022 and was acid, with a trace of albumin, indican, granular casts, uric acid and wide mycelial threads with clubbed ends. The albumin increased until September, then began to decline. Indican was usually present in small amounts. Casts were found until the middle of September, when they disappeared. The mycelial threads with clubbed ends were prominently present until the last week in August. I introduce this detail because of the continued presence of this unusual vegetable organism in the urine.

Nothing was to be found in the mouth or throat, and no carious teeth. The temperature was 100.5 F., the pulse 96. The patient was expectorating a very offensive purulent matter, made up macroscopically of gray, grayish to yellow and black expectorate. Insomnia and anorexia were marked symptoms. The anorexia was due to the foul taste left by the expectorate.

I was impressed by the comparatively low temperature, the macroscopic appearance of the sputum, the circumscribed, marked resistance, and the history of the suspected piece of timothy straw, and advanced the diagnosis of abscess of the right lung, from a foreign body lodged in the right bronchus, with secondary peribronchitis, and gave as my opinion that there was an actinomycotic infection. Later I was able to demonstrate with the microscope the presence of the ray-fungus in the sputum, and verify it by repeated subsequent examinations.

I ordered iodid of potash, 5 grains every four hours, alternately with capsules containing quinin and salicin, had iodin vaporized constantly in his room, and every three hours had him inhale a mixture containing creosote and oil of eucalyptus.

He ran along with aggravation of his symptoms coincident with the formation of pus in a new focus, and a decline of symptoms with the escape of pus, but his symptoms growing graver and general condition worse as time went by. His weight had declined from 150 to 105 pounds, with increased feebleness, pulse below 100 during June, from 100 to 120 during July, and during the last week in July never below 114.

The temperature was progressively higher, ranging in June from 99 to 101 degrees; in July from 99.5 to 102, occasionaly 103.5 degrees. August 10 I began the injection of a 1 per cent. solution of iodid of potash, one-half dram every third day, in addition to the other treatment.

He had refused this treatment up to this time, and only consented to it because he believed there could be but one result, viz., speedy death, unless something stopped the course of the disease. The area of dulness in the right lung had increased, and pleuritic sounds were to be heard over this area. An area of dulness could be detected posteriorly on the left side, corresponding in location to that on the right. So desperate was his condition that Dr. Matthews, of Chicago, who saw him with me, and confirmed the diagnosis, said that he would die in one week; an opinion that was concurred in by Dr. E. T. Hall, the physician in charge, and myself.

We made the injection with a large hypodermic exploring syringe, after preparing the surface with scrupulous care to avoid pus infection. After determining the point of greatest dulness, we introduced the needle detached from the syringe; if blood flowed freely through it—or if the patient expectorated freely of blood, as he did on several occasions—we would withdraw the needle and reintroduce it (a little precaution that I have found useful in injecting the thyroid). We never injected more than one-half to 1 dram, for we feared the traumatism to the tissues from the distension might result disastrously.

The result of this change, or rather addition to the treatment, was very striking. In three days his strength and general appearance had improved. After the second injection his temperature never went above 101 and his pulse 104. He was given, in all, twenty-five injections. After each there would be a temporary increase of dyspnea, cough and temperature for six hours, followed by marked improvement after twelve hours. Three days after the physical signs would be noticeably improved. The area of dulness on the left side described, disappeared after the third injection into it.

In October he presented himself at my office with dulness on the right side in front. The lungs were clear posteriorly. He was anxious to leave off the injections, in fact he had not had one for two weeks. I directed him to return home and resume them. He had two anteriorly at intervals of three days, and each contained one-half dram. Twelve hours after the second injection the irritation of the right lung left him "as if by magic"—his own words—and he has never had any cough or expectoration since.

Dec. 15, 1899, his weight was 165 pounds. He was well nourished, with no cough nor expectoration, and no pulmonary dulness nor râles were present. His heart, liver, spleen and temperature were normal, his pulse 72. I have had occasion to examine him several times since December, 1899, and have never been able to detect any evidences of the disease.

I take this opportunity to thank Dr. E. T. Hall, of Plano, Iowa, for his valuable assistance in the care and reporting of this case.

Case 6.—I was called to see T. P., aged 30, a conductor on a freight train, March 4, 1900, Dr. Severs in charge. His previous health had been good. One month before, the lower right wisdom tooth, carious for some time, began to ache, and he had it extracted. Almost immediately he was seized with a most excruciating pain, which was relieved after several hours by heroic doses of morphin.

The jaw swelled very rapidly, increasing until it became enormous; but, after the first few hours, the pain was moderate. The temperature varied from 100 to 102 degrees. The swelling had been incised at four different times, giving vent to small accumulations of pus. The second, and later the first molar on the right side, were erupted by *granulation tissue*.

At the first time I saw him he was emaciated, with prostration marked, and he was confined to his bed, taking very little nourishment and presenting an enormous swelling of the right side of the face, especially the lower jaw, with two sinuses leading down to the bone, the one admitting a lead encil, the other the index finger, both filled and pouting with granulations and discharging a thin whitish pus containing whitish-yellow granules. Trismus was marked. From the second lower biscupid, rearward, the alveolar process exhibited a fungous mass of granulations, discharging the same character of pus. The swelling over the jaw was stony hard, and surrounded by a zone of edematous swelling that partially closed the right eye, puffed out the cheek, thickened the lips and extended on the lower jaw to the median line.

There was numbness on the distal or anterior side, and the circulation was interfered with, as evidenced by the slow return of blood when it was driven out by pressure. There was no glandular involvement. I made a diagnosis of actinomycosis, based on the history, symptoms and clinical picture, and was able to verify it by finding the ray-fungus in the pus. His temperature was 100.5, pulse 114, the lungs, heart, liver and spleen normal. The urine, whose specific gravity was 1018, was acid, with no albumin, but phosphates in excess and with wide mycelial threads with enlarged rounded ends like those found in Case 5. I put him on iodid of potash every four hours, ordered the sinuses syringed out with peroxid of hydrogen followed by 50 per cent. Lugol's solution, and covered with borated gauze; the mouth washed every two hours. Hypodermically I administered 15 minims of a 1 per cent. solution of iodid of potash directly into the infiltrated tissues. At first I pushed the hypodermic medication, administering it daily, and injecting at three or four points, but the sequent swelling, described previously, deterred me, and I finally settled down to injections every third day. I was especially anxious to push treatment in this case because I feared the opening in the mouth might lead to the invasion of the internal organs.

Progress has been favorable and rapid. Improvement was first noticeable in the general condition, then locally. When the injections are given every third day there is a noticeable diminution in the size of the swelling by the third day. During the progress of the disease I increased the iodid to 10 grains four times daily, and on several occasions I cauterized the granulations in the sinuses with nitrate of silver to favor drainage and destroy with the granulations some of the organisms. Examination made April 27, 1900, showed the internal organs and urine normal. The sinus in the mouth had been closed for one week, the outside sinuses for two weeks. Three pieces of necrosed alveolar process had been removed from time to time. The swelling was very much diminished in size, the induration almost gone.

Case 7.—D. C. B., aged 41, a banker and cattle dealer, of robust health. Fourteen years ago noticed some swelling about the angle of the lower jaw on the left side. He had been engaged before that in the care of lumpy-jawed cattle. Four years ago he presented himself to me with an indurated swelling on the outer aspect of the lower jaw, just below the articular neck, the size of a small hickory nut, and another just behind the ascending ramus, connected, but not intimately, with the inferior maxilla. There was no suppuration. He had suffered for sixteen years from a troublesome wisdom tooth on that side. I made the diagnosis of actinomycosis, and ordered iodid of potash, 30 grains daily, and iodin ointment locally.

This was followed by decided improvement, but he left off the treatment in one month, and before the swelling had entirely disappeared. At times since then there has been temporary enlargement of the swelling, followed after a time by subsidence, but showing a progressive enlargement. He consulted me April 7, 1899, when the swellings were noticeably larger than when last seen, the induration marked, some trismus, no glandular enlargement, temperature normal. His general appearance was that of one in robust health. I cite to show that pure actinomycosis is non-suppurative.

Actinomycosis is defined as an infectious disease, usually chronic in its course, rarely acute, occurring in man and animals and caused by the growth in the tissues of actinomyces—the actinocladothrix—giving rise usually to swellings resembling sarcoma.

History.—Langenbeck found actinomyces in 1845, in an abscess with caries of the vertebræ in man, and Lebut, in 1848, in a thoracic abscess. Bollinger, 1877, published his cases in cattle. In 1878, Israel published two in man, and in 1879 a third case. Ponfick, in 1882, wrote an article giving the history of several in man, and establishing the identity of the disease as seen in man and cattle. Belfield was the first to make a study of the disease in cattle in this country. Murphy, in 1892, reported the first case of actinomycosis in man published by an American author. Since that time numerous ones have been reported by various observers.

Etiology.—The disease is caused by the entrance of the actinocladothrix into the tissues. An open wound is necessary for the entrance of the cryptogam. With an open atrium, and the organism present, it may gain access to any part of the body, the skin, mucous membrane of the mouth, alimentary canal or respiratory tract. A carious tooth or an inflamed gum afford especially inviting points of entrance, due to the fact that they offer and maintain a wide-open door and are the parts most frequently brought in contact with the organism, which is carried into the mouth on grain or grass, straw or seeds; it may be inhaled or taken in with the drinking water. Hence farmers should be cautioned against the common customs of chewing or picking the teeth with straws or eating raw grain.

The literature and personal observation make me confident that the disease may be inoculated into the tissues of man from diseased beast or man. Murphy reports a case where the disease was presumably acquired from a dog, and Ponfick one following the bite of a louse. Numerous cases are reported in man after contact with big-jawed cattle. You will recall that Cases 3, 5, and 7, reported above, show that the patient had, prior to his illness, been engaged in caring for big-jawed cattle. Three cases have been reported where the disease was presumably carried by kissing.

Bacteriology.—The etiologic factor, as stated, is the actinocladothrix. According to authorities there are three distinguishing morphologic elements: 1, club-shaped formations; 2, a centrally-placed net-work of fungous filaments of varying shape and size; 3, fine coccus-like bodies.

My observation is that the club-shaped formations are often absent, or, more properly speaking, I have rarely found them present. The dichotomizing threads are frequent and may often be found running out from a common center, reminding one of a tuft of tickle-grass. The fine coccus-like bodies are, according to my observation, the most constant and characteristic element. You will often see these Meischler's corpuscles in contact with threads in such a way as to make you doubtful whether the organism is properly classed a cryptogam.

In staining I used Gram's method in most cases. Picrocarmin is a very practical stain, staining the fungus yellow and the other tissues red. I have, in common with many observers, found it difficult to study the organism in pus, and have found that treating the pus with a weak solution of caustic potash, say 1 to 2 per cent., was of great practical value in baring the organism. Ether may be used for the same purpose, but did not prove so satisfactory in my hands.

Pathology.—Almost every organ in the body has been named as the seat of primary actinomycosis. The most common points of entrance are: 1, the lower jaw; 2, the lungs; 3, the cecum. An analysis of five hundred cases showed that 55 per cent. occurred in the head and neck, 20 per cent. in the thorax and lungs, 20 per cent. in the abdomen, and in other parts 5 per cent.

Wherever the process is found, the microscope shows round cells with epithelioid and often giant cell infiltration, associated with connective tissue proliferation. The disease never extends in the direction of the lymph stream, but may grow into a vein or large lymphatic, and a fungous mass containing the organisms be carried to a distant organ.

The constitutional symptoms are not very marked in cases of actinomycosis unless there is combined with the ray-fungus one or more of the forms of pus organisms. Cases of advanced actinomycosis, even when complicated with pus formation, offer a striking contrast to cases of tuberculosis, sarcoma or carcinoma that have progressed to the same extent in the comparatively slight degree of pallor, emaciation or cachexia.

The temperature is but slightly or not at all elevated in cases of actinomycosis uncomplicated by septic processes. Even when sepsis is present the temperature runs low compared with the local manifestations. This is due, in my judgment, to the interference with absorption of the ptomains by reason of the dense infiltration of the tissues. The absence of glandular enlargement in actinomycosis is in striking contrast to the marked glandular enlargement found in tuberculosis and carcinoma.

Locally, the actinomycotic nodules or swellings are, as a rule, strikingly firm and hard, with a surrounding area or zone of edema. When the jaw is the seat of the trouble, associated with the induration there is a marked degree of trismus due to the muscular infiltration.

As a result of the infiltration of the tissues the nerves are compressed, giving rise to anesthesia and numbness; hence pain is only exceptionally a prominent symptom. In fact the reverse is true, the swellings being strikingly free from pain and sensitiveness. The painlessness of the swelling serves to distinguish it from phlegmon or carcinoma. In Cases 1 and 6 the pain was very intense for a short time, but subsequently they ran a comparatively painless course. The compression of the blood-vessels from the infiltration, as stated, gives rise to a surrounding zone of edema, and obstructs the circulation as evidenced by the slow return of blood after pressure on the swelling.

When the induration nears the skin or mucous membrane, the covering becomes red, later purplish and puffy, followed by spontaneous opening of the abscess. Its opening leaves a ragged wound, filled with pouting granulations which, as the process recedes, leaves a large ragged sinus leading down to the subadjacent bone or abscess cavity.

The density of the infiltration may be more nearly appreciated if we recall that when the process occurs in the jaw, the teeth are frequently erupted by the granulations. With the further subsidence of the process the tissues retract and contract, presenting a dense, scar-like feel. It is surprising, however, to see how perfectly the tissues are restored to their former consistency and elasticity with perfect recovery. I have seen extensive losses of substance about the jaw recovered from with strikingly little scarring.

The pus poured out, usually scanty in amount, varies in appearance with the associated pus germ, but in all cases is characterized by the occurrence of small bodies, pin-point to pin-head, rarely split pea in size, varying in color in different cases, from light gray to yellow, now and then green or black. These bodies contain the characteristic organism, and are made up largely of collections of them. Sometimes these bodies are surrounded by a calcareous covering.

The following summary from Murphy, bearing as it does chiefly on the symptomatology, I take the liberty to introduce here: 1. The growth of the disease is very indolent and sluggish except in the peritoneal cavity. 2. It is accompanied by very little pain. 3. The microbe does not produce a ptomain capable of causing a rise in temperature. 4. Pure infection with actinocladothrix is not accompanied by pus. Pus means secondary infection by streptococcus pyogenes. 5. The amount of infiltration around each nodule of granulation and its sero-purulent contents is very great compared with the small contents. 6. The greater the amount of suppuration the more malignant and rapid the progress of the disease. 7. Diffusion of the actinomyces *in loco* and by entrance into the blood-stream are the modes of extension; never the lymphatics and glands. Its extension is greatest in the direction opposite to the course of the lymphatics. 8. After evacuation of the contents the nodules heal rapidly, but recur in a few weeks if the germs are not all removed. 9. Fatal symptoms are tardy in appearing, the dense infiltration acting as a bar to the disease.

Treatment.—The weight of authority has, until the last three years, been decidedly in favor of surgical measures in the treatment of actinomycosis. All surgical authorities are agreed that anything short of complete removal is ineffective, if not positively detrimental. During the past three years the trend of the profession has been in the direction of medical treatment for this class of cases.

If we will impartially review the literature, we will be forced to admit the great value if not advantages of the treatment by iodid of potash. Since the iodid was first suggested by Thomasson, in 1885, for the treatment of actinomycosis in cattle, case after case has been reported in man and beast cured by its use. The United States Government Commission at Chicago, in 1893, reported 63 per cent. of recoveries in beef cattle suffering from actinomycosis where iodid of potash was administered to them. Berard, of France, says in recent cases 25 per cent. are cured by iodid alone, and 75 per cent. cured by combined surgical measures and the administration of iodid of potash. In chronic cases he reports one-third cured by iodid of potash.

The above report made by Berard, in 1897, certainly does not represent the present position of the iodid. A résumé of the literature of to-day would give a much higher percentage of recoveries. In fixing the percentage of recoveries under iodid, the first difficulty to be met is the frequent combination of surgical and other measures with it; the second, the lack of thoroughness in its administration; and third, the lack of long-continued administration. In the limited literature at my command I find sixty-three cases reported cured by the use of iodid alone, and only two cases where the iodid failed after a fair trial. A number of these were inoperable. The actinocladothrix is not destroyed by the iodid, but its growth and reproduction seem to be retarded. In view of these facts, the theory has been advanced that the iodid increases the fighting properties of the phagocytes.

I have, at the risk of being tedious, gone into this synopsis of the history of the use of iodid of potash in this disease because I feel that we have in this drug a most valuable agent for its management, and that one who subjects his patient to a hazardous surgical operation before giving the iodid treatment a thorough trial has taken unwarranted liberty with the life of his fellow-man.

A case of actinomycosis of the lungs is reported cured by the internal use of oil of eucalyptus, and inhalations of the same drug three times daily. In estimating the value of any form of medication or surgical procedure in this disease, we must not lose sight of the fact that many cases of spontaneous recovery are recorded.

Various local measures have been used with advantage. The sinuses have been injected with peroxid of hydrogen and solution of iodin, the exuberant granulations cauterized with nitrate of silver and solutions of this nitrate injected into the sinuses with evident advantage. In the local treatment I try to control the suppuration and close the sinuses as quickly as possible, for, in common with other observers, I am satisfied that the disease yields much more promptly and satisfactorily to the iodid in the absence of suppuration.

Parenchymatous injections of a 5 per cent. solution of permanganate of potash, a 5 per cent. solution of carbolic acid—15 to 45 minims—and a 1 per cent. solution methyl violent have all resulted in cures.

Billroth reported a cure after the injection of tuberculin. The results of Gautier by the electrolytic action of a galvanic current of 50 milliamperes through two platinum needles on a 10 per cent. solution of iodid of potash injected into the actinomycotic induration—with success in his hands—do not seem to have been received with favor. Gould's "American Yearbook of Medicine and Surgery," for 1897, contains a brief résumé of two cases treated by Rydgier, and reported in the *Wiener Klinische Wochenschrift*, of Sept. 12, 1895. The treatment was by the injection into the tissues of a 1 per cent. solution of iodid of potash. From this report I adopted the plan of treatment which served me so well in Cases 1, 5 and 6.

I have adhered to the 1 per cent. solution: 1. Because that strength of solution has the greatest osmotic power, i. e., the greatest power of penetrating the tissues. 2. I have feared that a stronger solution might prove injurious to the tissues.

I have used the limited amount, viz., 15 minims, because I feared the damaging influence on the tissues of too much distension, and because the reaction seemed to be too marked when a greater quantity was used, or more than one injection employed. I think the increased edema after the injection, if too great, may retard absorption. I have not made use of any other drug, hypodermically, because I have been satisfied with the results.

In conclusion, I trust we have added some testimony to establish the following positions: 1. That actinomycosis is not an uncommon disease. 2. That, where pure, it is a non-suppurative, afebrile, comparatively painless, slow-progressing disease. 3. That the clinical signs and symptoms are often pathognomonic. 4. That the club-shaped bodies, single and in asters, are often absent, the threads more frequently present, and the coccus-like bodies most constantly present. 5. That combined surgical measures and the administration of the iodid of potash give the best results. 6. That iodid of potash administered internally cures a large percentage of cases. And, finally, that the interstitial injection of iodid of potash into the infected tissues exerts a strikingly salutary influence over the disease.

Since preparing this article my attention has been called to an article published by Ruhräh, of Baltimore, in the *Annals of Surgery*, vol. xxx. He has collected all the American cases of actinomycosis, sixty-five in number, reported to January, 1899. His statement that "the thoracic cases do badly, as a rule, no matter what treatment is followed," is in accordance with the prevailing opinion of the profession.

TROPICAL ABSCESS OF THE LIVER.

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With the continuous residence of our army in the tropics and the constant return to the United States of scores of invalided soldiers, the subject of tropical diseases has assumed new importance to the medical profession of this country. Probably no subject has been brought so intimately to its attention as that of abscess of the liver. Its relation to dysentery is known, and the frequent development of liver abscess late in the course of this disease explains its appearance so often in the United States.

From the earliest times dysentery has been the scourge of armies, but in our own campaign in the Philippines we have had superimposed on the malevolent influences of the massing of great bodies of men together the presence of an endemic disease. The record of the First Reserve Hospital in Manila for one year—March 1, 1899-1900—shows that dysentery and diarrhea were the cause of more than one-fifth of the sickness in our army. In this year there were treated at this hospital alone 2251 cases of diarrhea and 1391 of pronounced dysentery. Dysentery and diarrhea followed directly the course of the rainy season. During June, July and August the sick report was crowded with these cases. Often whole companies would be stricken as with an epidemic. The sudden chilling and exposure of the first rains made the number of cases during the month of June more than three times as great as that of any other month. With the American in the tropics dysentery is always present, and with it abscess of the liver. The conditions which favor the development of the one makes more evident the existence of the other.

Numerous statistics demonstrate this fact. In 3680 dysentery autopsies made in various tropical countries and reported by Manson, 21 per cent. showed abscess of the liver. The exact number of cases among our own troops can not be definitely stated, but the prevalence of the disease and its intimate relation to amebic dysentery is well shown by the examination of the records of ninety-six dysentery autopsies performed at the First Reserve Hospital, Manila, during the year 1899. Abscess of the liver was present in twelve cases—over 12 per cent. While this number is a small one on which to base a statistical opinion, yet it gives very nearly the correct estimate of the percentage of liver abscesses developing in cases of chronic tropical dysentery among Europeans. The native population in the Philippines rarely develops this disease, although dysentery is common among them. Not a single case of liver abscess was seen among the natives in my own experience in the islands, and I am informed by well-educated Spanish and Philippino physicians that to them the disease is almost unknown.

The life led by Europeans in the tropics doubtless explains the frequency of liver abscess. Overeating and overdrinking, together with lack of exercise, favor hepatic engorgement, and the sudden chilling and exposure incident to the first few months of residence furnishes the exciting cause in the development of an acute amebic dysentery.

Although dysentery is without doubt a cause of tropical abscess, the part played by the ameba coli in its development is as yet undetermined. Whether it was a cause or a result in our own cases we have no evidence to offer. All were of the amebic type of dysentery. The organism was either found in the stools or the pathologic picture was so typical that search was not made for it. From the pus of the abscess, or the abscess wall itself, there is record of the ameba in only five cases. This should not, however, lead to the conclusion that the organism had not been present in the remainder, for most of these cases were long standing, with great destruction of liver substance, and a sufficiently persistent search was not made in every one. Only one case of liver abscess was not dysenteric, but was apparently a multiple idiopathic abscess. There was no history of dysentery or diarrhea, nor any postmortem evidence of previous amebic infection, and the organism could not be obtained from the liver pus.

Of the 13 cases on our records, 5 were single and 8 were multiple abscesses. As Manson[1] very aptly remarks: "Whether the resulting abscess be single or multiple is more or less a matter of accident. If the weakened liver is efficiently inoculated at one point only, there will be only one abscess; if at many points, then there is multiple abscess."

The right lobe was most commonly affected. In only 2 instances was the left involved. Five cases of abscess of the liver came under our observation clinically; 3 were multiple abscesses in which nearly the whole liver substance was destroyed; 2 were large single abscesses. All 5 were operated on, and only 1 recovered.

In the diagnois of abscesses of the liver symptoms are of but little value. Local signs and the detection of pus by aspiration establishes the diagnosis. Great emaciation and an anemic jaundice are apparently commensurate with the destruction of liver substance. The word anemic is applied to this jaundice to indicate a peculiar "diluted," faded, almost dusky, yellow color of the skin common in these cases. A hectic temperature, a rapid running pulse, with the early development of typhoid symptoms are in proportion to the amount of pus present; for there seems to be no tendency to limit absorption in abscess of the liver. Sordes soon collects on the teeth and lips, and mental hebetude develops early. The pulse is rapid and running, often being out of all proportion to the temperature. It may remain at 140 to 160, or even higher, for weeks just before death. Constipation is the rule, with offensive gray-colored stools, but diarrhea is common late in the disease. A leucocytosis is generally present, but is of little value in the diagnosis as it is very often associated with localized peritonitis, or involvement of the mesenteric glands, in cases of chronic dysentery. Often the local and general symptoms of abscess may develop from a patch of necrosis without the formation of pus. In these cases it is evident aspiration would fail to detect the infected area in the early course of the disease. Two cases came to autopsy from dysentery, and the abscesses would have undoubtedly developed had life been prolonged. A localized peritonitis is present in most cases of long duration. Involvement of the diaphragm is evidenced by persistent cough with increased pain on deep inspiration. Rupture of the abscess into the pleura, with involvement of the lung, is the commonest form of spontaneous evacuation; two of our autopsies showed this condition, and it was present in one operative case.

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[1] Tropical Diseases, p. 364.

The great increase in the area of liver dulness, not only above and below, but particularly to the left of the median line was found in all of our cases. Persistent pain over the whole liver region, with a point of local tenderness just below the margin of the ribs in the anterior axillary line is present in most cases. Local bulging, increase in the width of the interspaces, with local edema of the right side makes abscess most probable, but aspiration alone establishes the diagnosis. In our cases a long needle of goodly size was used, so that the thickened pus might be drawn through it. A general anesthetic was given and the needle introduced in the mid-axillary line in the eighth interspace and passed in five or six different directions to its full extent. If this failed to detect pus additional punctures were made both in the right and left lobes, for very often a liver abscess may not be detected by the ordinary puncture in the eighth interspace. This condition was present in one of our cases, and it was not until additional punctures had been made near the median line below the ribs that an abscess was discovered in the left lobe.

In order to determine the extent of liver accessible to aspiration from this point a series of liver punctures were made with long needles, postmortem. The needles were left in situ and dissection carried down through the liver substance, when it was found that not one-half of the organ was accessible from the eighth interspace. In one case an echinococcic cyst the size of a small orange lay in the posterior inferior portion of the right lobe toward the median line, and entirely escaped detection.

From these facts we were led to the conclusion that additional punctures other than in the eighth interspace must be made before an abscess of the liver can be excluded in the diagnosis. With ordinary care there is little danger of injuring the gall-bladder, or the large vessels, and with strict asepsis the operation is entirely justifiable as a means of differential diagnosis. Not an untoward complication resulted in twenty-one cases of aspiration. The presence of pus once established makes operation imperative. Only a limited number of patients recover; not from the fact that the operation is difficult, but because the abscess is generally multiple, or, if single, involves a great amount of liver substance, and comes to the surgeon only late in the course of the disease. Unless there is evidence of pointing, it is best to excise a portion of a rib and drain from the side, as there is thus less danger of infection and greater facility in gaining access to the abscess cavity.

Even in most extensive liver abscesses the lower anterior border of the liver is often not involved, the infectious process being confined to the substance of the organ. In many instances the abscess can be reached only with the greatest difficulty by the incision below the costal margin. By excising a portion of the eighth or ninth rib in the mid-axillary line there is almost no danger of infection, but little shock and the freest possible drainage in the most dependent position. Large double drainage tubes are used. The removal of a portion of a rib not only gives more room for exploration, but insures against compression of the tubes as the case progresses. If the liver is adherent, and the peritoneum or pleura thus protected by adhesions, the abscess may be opened at once. If there is danger of infecting either, a delay of forty-eight hours is obviously wise. The instruction to "stitch the capsule of the liver to the margin of the wound" is more didactic than practical. Rarely, if ever, can this be done, as the liver capsule—particularly that of an inflamed liver—is so friable that no stitches will hold, and but little protection would be afforded if they did. Simply packing the wound with iodoform gauze and waiting forty-eight hours will accomplish the desired result. On account of free hemorrhage in opening a deep-seated abscess the thermocautery may be used, but this is rarely necessary, as access can be readily gained to the abscess cavity by puncture with the finger or a blunt instrument. Severe hemorrhage, if it occurs, can be controlled by packing. Usually it is best simply to drain the abscess at operation and to use no irrigation for forty-eight hours, owing to the weakened condition of the patient and the danger of infecting the pleura or peritoneum. Normal salt solution, sterile water or weak antiseptic solutions should be used, as absorption is very great and strong antiseptics are dangerous. Under daily irrigation with such solutions the discharge will completely disappear in a surprisingly short time— a week or ten days even for a large abscess. Free stimulation and most nourishing foods are particularly essential in the after-treatment.

Case 10,635.—April 20, 1900, Private T. S., Co. F, 42d U. S. V., was seen. He had never been sick since childhood until six weeks before, when he was attacked with diarrhea. The symptoms of dysentery rapidly developed, and on his admission, April 25, he was passing from five to twelve bloody mucous stools a day. His temperature was 101, tongue dry, brown and cracked, pulse 140 and thready. The spleen was slightly enlarged, and the abdomen tympanitic and tender on pressure. A point of great tenderness was evident just below the ribs over the region of the gall-bladder. The liver extended from the fourth interspace to the level of the umbilicus, 1½ inches below the costal margin in the right mammillary line, and about three inches to the left of the left median line. He was in a condition of mental hebetude, and complained of little pain except at bowel movements. The blood count revealed a leucocytosis of 18,000. Widal's reaction was negative and the plasmodium malariæ was not found. Under ether, an aspirating needle was inserted through the eighth interspace and pus was found on the first puncture. An incision 1½ inches long was made over the eighth rib, 1 inch of the rib excised and the abscess at once opened and drained. More than one pint of fetid liver pus escaped. The abscess cavity was not irrigated until the second day, and then daily irrigations of sterile water were begun. The pus had completely disappeared on the tenth day and the man was out of bed. Recovery was complete. Amebæ were found in the abscess cavity.

Case 8215.—Sergeant J. D., Troop E, 11th Cav., for many months had had chronic dysentery. On admission, Nov. 21, 1899, he was having from four to ten stools daily, his temperature was hectic, 99 to 102, pulse 138 and weak, and he was very weak and greatly emaciated. For several weeks he had had marked tenderness over the region of the gall-bladder: this had greatly increased. Intermittent hiccough and a persistent dry cough were troublesome, and suggested involvement of the diaphragm. The liver extended 1 inch below the costal margin in the nipple line, and there was marked bulging at this point and marked edema of the whole right side.

No aspiration was made in this case, as pus was evident—either an abscess or a suppurating gall-bladder. An incision was made one inch below the ribs in the nipple line, down to the peritoneum. This was found adherent, and so the abscess, very large, "big as your head," was at once evacuated. The cavity was irrigated with normal salt solution and three large drainage-tubes inserted. The pulse was so weak during operation that three pints of normal salt solution were given intravenously and one pint by hypodermoclysis. Despite this and the freest stimulation, the patient steadily grew worse, and died five days later. The autopsy showed multiple amebic abscesses, which had destroyed nearly the whole liver substance.

Case 4786.—Private Wm. H. H., Co. K, 13th U. S. Inf., had never been ill until Aug. 4, 1899, when he developed a severe case of acute dysentery. From the onset his temperature was unusually high—103 to 105. The discharges were of the characteristic mucus and blood, and so frequent that he was constantly on the bed-pan—more than forty movements in twenty-four hours. Almost from the first he complained of pain over the region of the liver. The organ rapidly enlarged, and by the twelfth day the whole right side was edematous. Aspiration revealed the presence of pus and incision was made in the mid-axillary line, excising a portion of the eighth rib. Only a small amount of pus was evacuated. The patient never rallied from the operation, and died on the thirteenth day. The autopsy showed one small abscess with several necrotic patches throughout the substance of the organ, which would undoubtedly have formed additional abscesses had the patient lived.

Case 10,741.—G. M. W., a clerk, was seen March 7, 1900 There was no history of dysentery or diarrhea. The patient had been in the Orient five months, and in fair health until about four weeks before, when he rapidly lost weight without assignable cause. On admission to the hospital, March 7, he was much emaciated and of a peculiar dusky, jaundiced color. His temperature was subnormal and his pulse rapid and feeble. Pain over the liver was constant, with the point of greatest tenderness one inch below the costal margin in the mammillary line. The organ was very much enlarged, extending four finger breadths below the ribs. Under ether the aspirating-needle revealed pus. An incision 2½ inches long was made below the costal border in the right nipple line. The liver was found adherent to the parietal peritoneum. On attempting to open the abscess such free hemorrhage occurred that the wound was packed with iodoform gauze and partially closed with silkworm gut sutures. Further operative procedure was delayed forty-eight hours, when it was intended to open the abscess with the Paquelin cautery. However, on separating the capsule from the diaphragm, about one pint of pus was evacuated. A drainage of double tubing was instituted, and the patient left the table in a very weak condition and died forty-eight hours later. The autopsy showed multiple abscesses of the liver involving nearly its whole structure. They varied in size from one to five inches in diameter and contained peculiarly fetid pus. There was no previous history or evidence of dysentery, nor could the ameba be found. Apparently the case was one of multiple liver abscess following general hepatitis. The mesenteric glands were much enlarged and the spleen was septic.

Case 220.—Private C. F. B., Co. I, 4th U.S.Inf., gave a history of chronic dysentery of several months standing, but on the date of admission considered himself cured of that disease. His present illness began so insidiously that he could not state the time of its onset. During the preceding month he had lost greatly in weight and suffered from a constant steady pain in the epigastrium. On admission, the temperature was subnormal and his pulse rapid and feeble, with a dry brown tongue and mental hebetude, and his skin a dusky jaundiced color. The liver was much enlarged, extending fully three inches to the left of the median line and 1½ inches below the ribs. Aspiration at the eighth interspace, in five or six directions, failed to detect pus, so the needle was introduced into the left lobe from a point just to the right of the median line, ½ inch below the costal margin. Here puncture was successful and an incision was made down to the liver. The capsule and parietal peritoneum were adherent and a large abscess was opened and drained, with no irrigation. The patient rallied from the operation, but died on the fifth day. The autopsy revealed a large single abscess occupying the whole left lobe. It had perforated the diaphragm, and opening up the pleura had set up a septic pneumonia. Healed amebic ulcers were found in the intestines, but the ameba coli could not be distinguished.

Migration of Needles.—The *Medical Press and Circular* for April 24 reports the removal of about sixty needles from a domestic, aged 16, who says that five years ago, on a wager, she swallowed four or five packages. No inconvenience was noticed until recently, when the needles presented, usually by the head, in various portions of the body.

THE PREVENTION OF INSANITY.

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The necessity for more radical measures for the prevention of insanity must be manifest to any one who will judicially consider the question of its rapid increase; for while there has been some attempt to minimize this important question, yet it is capable of easy demonstration that insanity has increased out of all due proportion to the increase in population in the last thirty or forty years. The statistics of Great Britain show that the proportion of insane to the whole population in 1860 was 1 to 523, and in 1890, 1 to 320; and in Illinois the proportion of insane to the population is about 1 to 400.

Preventive measures must come from the States. The learned and self-sacrificing profession to which we belong can show the way, but the state must compel people to walk therein. The state has assumed the care and maintenance of the insane; indeed, has made it a criminal offense for any one to restrain them without the consent of her courts. Inasmuch as the state has assumed this great responsibility, it is her duty, in the interests of altruism and of economy, to use every possible means for the prevention of insanity; to find out how this may be done; to educate the people as to methods of doing it and to enforce those methods. The state should, through her State Board of Health, furnish the people with information that they can comprehend as to the causes of insanity, and with methods that may be applied for its prevention; and the state should be as ready, with the same paternal power she uses in smallpox, cholera, etc., to enforce those methods that have the approval of the medical profession. The state should make her insane hospitals schools for the instruction of medical students in insanity. The state should, by competent authority, select by competitive examination senior students in medicine from our medical colleges, and place them in the hospitals for the insane as medical internes. At least half a dozen can be placed in each hospital for the insane in this state. These internes should remain at least one year, receiving board, lodging, and a small gratuity at the end of the service, and by this means at least thirty physicians every year, with mental attainments of a high order, will be sent forth with a good clinical knowledge of insanity, its prevention and its treatment, and become so many prophylactic centers in as many communities. But a few years would be necessary to have, from one end of Illinois to the other, an abundance of well-skilled medical men competent to solve this great problem.

The state should assist in providing treatment for carefully selected cases in wards connected with the hospitals now to be found in every city and almost every town in the state. Admission to these wards should be by the same rules as apply to any other disease. The family of the patient would make but little objection to the prompt treatment of the case in such a manner, while it would decidedly object to the patient being sent to a hospital for the insane by a jury trial at some distant point, and especially to-day when our hospitals have become political machines for the reward of political favors. The patients in these hospital wards, under such scientific treatment as they may promptly obtain, will recover in very much larger proportion than is possible now, when the prejudices of the people, the court proceedings, and the management of these institutions are all barriers to their prompt and successful treatment. Provision for the treatment and care of the acute cases of insanity near their homes is very much better than the building of palatial institutions in favored localities in the state.

The time allotted to this paper will only permit a very superficial consideration of the prevention of insanity in detail.

At the head of causative factors must stand heredity, that great biologic law by which living beings repeat the character of their ancestors, the sum of ancestral influence directly transmitted, whether as a specific tendency, or as a deficient vitality, or both; "that tyranny of organization," as Maudsley puts it, in them from which no one can escape, that destiny which unconsciously and irresistibly shapes our ends, and some have sought to minimize it and to substitute for it what they call tradition. This heredity is not necessarily the heredity of insanity, for nervous diseases, as is well known, undergo transmutation in transmission, so that any neurosis may be the basis of insanity. Heredity as a factor in the production of insanity can be reached radically by only two methods: 1, the regulation of marriage; 2, the asexualization of the degenerates; or both. But in order that either one of these methods may be established, there must be a great deal of educational work done by the medical profession.

My attention was called a few days ago to a prominent stock raiser in Kentucky, who refused to purchase a bay stallion, a very valuable animal, because back in the fifth or sixth generation one of his progenitors had bred gray. This stock raiser married a woman whose brother at the time was insane, and whose father and grandfather died insane. Fortunately in this case, so far there has been no progeny. Some say that the regulation of marriage is an utter impossibility. Such people forget that in Illinois to-day marriage, to a very limited degree, is regulated, and all we need to do is to extend the regulating powers of the present law to make it meet the indications of the present conditions. Asexualization, as is known very well, can be accomplished without danger to life, without producing deformities, without destroying sexual desire, by ligating the Fallopian tubes on the one hand, and the seminal ducts on the other.

It is not necessary for me to emphasize the fact that a mother with this neurotic inheritance, when she becomes pregnant, must be carefully guarded during the whole period of gestation, placed under the very best hygienic rules and conditions, compelled carefully to avoid the use of narcotic drugs and stimulants; and when her child is born, if possible, a healthful wet nurse should be provided, and in its early days, careful training, so that as the child grows older he may have a robust body. His education should be largely directed to producing a body with fine muscular development; his intellectual training should be carried on with the greatest possible care, and an occupation should be selected for him which will be the least likely, by its extraordinary demands, to dethrone his reason.

It is unnecessary for me to consume time by saying that our educational system in the public schools, so far as the great bulk of neurotic children is concerned, is sadly deficient. We know the causative effects of syphilis, of tuberculosis, of infectious and miasmatic diseases, of the arthritic diatheses, of the effect of intoxicants, not only voluntary intoxication by alcohol and numerous similar drugs, but by auto-intoxication through physiological instability, defective metabolism, defective gland secretion from the alimentary tract, the liver and kidneys. We know the effect of deficient alimentation, and for all these several important factors we are familiar with the preventive measures.

WHEN SHOULD WE OPERATE IN APPENDICITIS?

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So much has been written on the subject of appendicitis, that I have hardly the temerity to proceed and I am sure I would not have if it was not for the memory of many cases that I feel could have been saved and others "in futuro" that never will until some of the general practitioners rise above their prejudices. I believe it is the duty of all operators to agitate this subject until the correct position of operative procedures is thoroughly appreciated. If men who do not operate and meet these cases would have in mind septic ones and their serious termination—if not in death, they go on to abscess, drainage, ventral hernia, and a long convalescence—as well as catarrhal ones with their recoveries, then much will have been accomplished. To diagnose and correctly appreciate the uncertain cases is the most essential feature. Like other surgical conditions that invite procrastination, appendicitis may lead us to a serious or fatal termination. I purpose treating only one feature of the disease, and that the old one, namely, shall we operate in all cases, or shall we follow an expectant line of treatment? There are many able men in favor of both expedients.

Important Factors.—There are important factors in every case that the general practitioner should consider, viz.: Are the symptoms clear-cut and urgent? Is it a primary or recurring case? How far advanced is it? What is the opinion of the patient's friends or advisers? Has some one in the vicinity had a slight catarrhal attack of appenditis, or other local disease with the character of appendicitis, which has ended in recovery without surgical interference, or has surgical interference in some neglected or fulminative case ended fatally? Either condition will have a material effect on the family and friends in deciding concerning an operation. Then there is the clinical experience of the one in attendance and the class of cases he has met, the question whether or not he does surgery, whether he is opposed to calling in a consultant, how many cases he has had and their outcome, and lastly, whether he concludes his consultant is advising an operation purely because he is desirous of performing it.

There is no fair comparison between the eminent specialists of the large centers, whose every utterance is law to so many, who have such a wide territory to draw from that their patients and even their professional brethren do not know of their results, and the practitioners of smaller places. We general practitioners are most excusable—with our limited opportunities—for the feeling of anxiety and apprehension that comes with each case of appendicitis, when we review the great variation in the views of our most eminent men. One will say, "Operate at once;" another, "Be conservative and follow an expectant line of treatment that you may have the advantage of an elective operation;" while still another equally eminent man says that operative procedures are seldom indicated. Errors of judgment will occur with us all, but these conditions must be met and corrected by men of the greatest experience. I am sure that mistakes, if properly interpreted, are powerful for good.

Indicative Symptoms.—What symptoms are of service to us in reaching a conclusion that we should operate in a case of appendicitis? Temperature, pulse, respiration, general or localized pain, vomiting, sudden onset, tenderness in the immediate region of the appendix, the facial expression, the presence of a tumor, rigidity of the abdominal muscles, edema of the abdominal walls, distension of the abdomen, tympanites and chill, are all at one time or another observed in appendicitis. The pulse, temperature, respiration, nausea and vomiting are in no sense a guide in the first stage because different patients react so differently to the first impressions of the toxins. The pain is at first referred to the umbilicus or epigastric region, and then after a few hours settles down in the region of McBurney's point; you can readily appreciate that the exact point varies according to the location of the appendix. Later, we may have a severe paroxysm of pain, which so many characterize as the time at which the rupture occurs; it is of value in that it indicates the time at which the alarming symptoms commenced.

The presence or absence of pus in an inguinal tumor is a condition which must be considered very carefully in estimating the value of the symptoms; as an acute general peritonitis may appear in a case of appendicitis in which the general cavity is not protected, or a perforated appendix may be walled in by lymph which is barely sufficient to close the opening or surround the slough. It is of interest to note that the abdominal muscles protect an inflamed appendix by their rigidity, and that they do so regularly, and that they do not protect in the same way an inflamed ovary or tube, only an inch or two distant, but remain normally relaxed.

The rigidity of the abdominal muscles is an important symptom, and when associated with the anxious facial expression and rapid pulse, I always feel that there is trouble ahead. In late cases increased edema of the abdominal walls, with distension of the abdomen and progressive inflammation, marked at first by a rise in temperature, which is shortly followed by a fall, with a weaker and quicker pulse, is characteristic of a diffuse septic peritonitis; this condition, preceded by a severe paroxysm of pain in that region, indicates a ruptured appendix, which may be diffused or walled off. A chill sometimes occurs at the onset, again at the stage of perforation, and later if sepsis supervenes.

Remarks.—During the past year I have been called in consultation in nine cases of septic appendicitis which succumbed to the disease, and which, I believe, could have been saved if those in attendance had acted along the lines of our present conclusions in these cases. I have also operated on at least a dozen cases of fulminative appendicitis, during the same period, sent to me by another class of observers, without a death, and in five of this number rupture had occurred though it was not thirty-six hours from the initial symptoms. How can we avoid the fatality of the first variety? Only by the attending physician associating with himself, when in doubt, some one thoroughly familiar with these cases, and so being in a position to differentiate the catarrhal from the septic cases, and thus reaching those requiring operative procedure early.

OPERATING UNDER X-RAYS.

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The removal of foreign bodies which have been accurately located by the fluoroscope or skiagraph has come to constitute every-day operations in surgical work. I have not, however, as yet seen any report of a case in which the surgical work itself was done under the light furnished by the *x*-ray and with the aid of the fluoroscope. Having had one such experience I deem it worthy of presentation to the profession.

George E. R., aged 9 years, was shot July 4, 1899. The bullet was a Flobert and entered just above the right patella. The injury seemed to be slight and the wound healed by first intention. Some three weeks later, the joint beginning to give him trouble, an examination was made by his physician, Dr. S. M. Sherman, of this city, who thought he detected the bullet under the skin at one side of the patella. He cut down upon the supposed bullet, but found nothing. I saw the case for the first time on July 25, at the office of Dr. Early, an expert radiographer. With the fluoroscope the bullet could be seen with very great distinctness, as the boy lay on his back, on a line with the upper border of the patella and apparently resting on the upper portion of the articular surface of the inner condyle of the femur. It could be seen very distinctly and its removal was apparently a matter of great ease. A skiagraph was made which verified the view afforded by the fluoroscope.

The bullet, which seemed to be superficial, was located on the opposite side of the patella from that which had been operated on by Dr. Sherman a few days before. The operation wound was suppurating freely. Under an anesthetic, administered by Dr. Sherman, an operation was made for the removal of the bullet, July 29. A small incision was first made and enlarged as necessary, but notwithstanding a most thorough search no bullet could be found.

The only explanation that could be offered of the failure to find the bullet was that it was free in the joint and had simply changed its location during the intervening period. The patient was therefore returned to Dr. Early's office and the fluoroscope again used July 30. This showed the bullet at the back of the joint, but movable; its position could be shifted by rolling the boy upon his abdomen. Since it was plain that the position of the bullet varied with changes in the position of the limb, it was evident that unless we wished to open the joint widely the operation must be made with the use of the fluoroscope. Accordingly preparations were completed and the operation made on the following day.

The bullet was located at the bottom of the joint, the patient lying upon his back. When he was rolled on to the abdomen the bullet dropped down a little but could not be brought to the dependent portion of the joint. The joint was therefore opened through a small lateral incision, and a pair of delicate forceps introduced, hoping to catch the bullet. The operation consisted in an attempt to catch a shadow with a shadow. In order to determine the position of the bullet and also of the point of the forceps, it was necessary to locate them in two planes, and this could only be done by rolling the patient back and forth from back to side, so as to get two views. With great difficulty the bullet was finally grasped, when it was found to be impossible to withdraw the forceps with the bullet in its grasp owing to the approximation of the articular surfaces. The bullet was therefore pushed up to the opposite side of the joint and extracted through a minute counter-opening.

All things considered, I never performed a more difficult operation. The room was necessarily dark, the day was hot, and the noise of the machine was almost intolerable, while the fear of infection from the suppurating wound, which was in close proximity to my own incisions, was constantly before me.

Fortunately, although there was some inflammatory exudate present in the joint at the time of operating, there was no infection from the outside. The incision was closed carefully without drainage, a splint applied to secure fixation, and recovery was entirely uneventful, the ultimate motion of the joint being perfect.

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THE PROTOZOON OF CANCER.

After some three or four years' work the New York State Pathological Laboratory at Buffalo, established by the state for the purpose of studying the etiology of cancer, proclaims, through its director, Dr. Harvey R. Gaylord,[1] that the cause of cancer has been found to be a protozoon or animal parasite. This article represents the official report of the laboratory to the legislature of New York. Reports of this announcement have been referred to previously in The Journal.[2] The facts in the case, on the study of which interest as to the nature of certain bodies observed in cancers was aroused, are briefly as follows: An adenocarcinoma, probably originating in the appendix, spread to the peritoneum, underwent mucoid degeneration, and the peritoneal cavity was filled with a clear, straw-colored fluid. A quantity of this fluid was secured under aseptic conditions and found to contain a large number of small hyaline bodies which changed their form and size under the microscope and passed through a cycle of development to what appeared to be a spore-forming stage. This fluid was injected into the abdominal cavity of a dog and a guinea-pig, producing a marked peritonitis, the exudate containing similar bodies to those mentioned above. Some of the bodies were observed to send out pseudopods toward air-cells in the microscopic preparation. Peritoneal fluid from the case of peritoneal carcinoma was also injected into the jugular vein of a guinea-pig, which, when killed fifty days later, had numerous white nodules in the lungs, and on microscopic examination these nodules proved to be beginning foci of adenocarcinoma. Peculiar bodies were found in the cells of the splenic follicles and in the cells of the tumors of the lungs. Efforts to cultivate these bodies failed at this time. Later cultivation experiments are said to have been more successful, but unfortunately no details are given in this article. Following these experiments much study was given to fresh scrapings and hardened sections of cancers. Bodies interpreted as parasites were found with almost unvarying constancy in all cancers examined. Observations seem to indicate that the bodies increased very rapidly just before or soon after death. Several forms are described, the earliest being round like a coccus, then a larger form much like oil drops, but not giving all the reactions of fat, then an ameboid, nucleated form resembling a clear leucocyte, and finally a spore sac, seen mostly postmortem, in which the young forms arise. The so-called cancer milk of the older writers is said to consist of an almost pure culture of these bodies. The development of the smaller forms was followed in hanging-drop preparations through the ameboid and nucleated stage into the spore-sac. In sections of fixed preparations only the small forms remain demonstrable and appear as the fuchsin bodies described by Russell in 1890, and believed by him to be yeasts or blastomycetes.

In the efforts to determine the nature of these bodies or organisms, full consideration is given to the work of Sanfelice, Russell and many others who champion the blastomycetic theory of the origin of cancer. Gaylord reviews the principal features of this work, which has formed the subject of reviews and abstracts in the columns of The Journal.[1] Plimmer's work of demonstrating certain peculiar "cancer parasites" or "Plimmer's bodies" in 88 per cent. of 1278 carcinomas is considered at length. Plimmer's bodies, as revealed by his special method, are rounded bodies of diverse size, with a central portion not unlike a nucleus, yet differing in staining reactions from ordinary nuclei, a body, and a capsule. Budding forms are rarely seen, and sometimes there is merely a capsule with central dot or dots. Russell's bodies as a rule are homogeneous. With the aid of Plimmer's method Gaylord and his associates were able to substantiate Plimmer's claim that these bodies are present in carcinomas; they also found them in sarcomas and even in histologically non-malignant adenofibroma. Plimmer's bodies could not be found in other tissues, such as the lesions of bacterial and blastomycetic infections. As is well known, hyaline bodies morphologically indistinguishable from Russell's bodies occur sometimes in great abundance in a variety of lesions other than tumors and even in the normal tissues. Gaylord found Russell's bodies quite numerous at the periphery of growing tumors and in adjacent lymph glands, even when these were free from metastases. He calls attention to the similarity between Plimmer's bodies, especially as seen in the fresh condition, and certain appearances in carcinoma described by Sjöbring and by Eisen as protozoa. And in the next place he traces a direct morphologic relationship between Plimmer's bodies and those of Russell. Failing to find in tumors any structures that could be considered as blastomycetes, and an elaborate series of culture experiments with tumors proving of uniformly negative results, Gaylord reaches the conclusion that Plimmer's bodies, Russell's fuchsin bodies and the forms regarded by others as protozoa are identical with the organism—a protozoon, he thinks—studied in the fresh state and referred to in the beginning of this article. He finds that the protozoon of cancer repeats many of the developmental stages of the "vaccin organism" of Gorini and of Funk, which is regarded as a protozoon. Numerous animal inoculations have been made with carcinomatous and sarcomatous material of different sorts. The experiments are to form the subject of a subsequent report. It has been found, however, that animals are readily infected; they become emaciated and die at varying intervals, sometimes not until several months after inoculation. The lesions are not striking. A moderate amount of fluid occurs in the peritoneal cavity and there is enlargement of the abdominal lymph glands. The peritoneal fluid, the organs, and the blood contain large numbers of "the parasites" when examined fresh. One dog showed a large lymphoma of the spleen. Another dog inoculated with sarcoma showed typical metastases in all of the regional lymph nodes. Two guinea-pigs and two rabbits, inoculated in the jugular vein, showed similar lesions in the lungs to those in the guinea-pig mentioned in the foregoing, and these are all interpreted as beginning adenocarcinoma of the bronchi. One guinea-pig presented lesions regarded as primary carcinoma of the lungs and liver, and one dog a lymphoma of the spleen following inoculation with dried lymph nodes from a case of carcinoma. In all these animals the tumor cells contained "the characteristic forms of the parasite."

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[1] Am. Jour. of Med. Sci., 1901, cxxi, 503-539.

[2] Journal A. M. A., April 6, 971 and 979.

[1] May 27 and Dec. 2, 1899.

Similar organisms are said to have been found in syphilis. All organs, including the blood of all patients dying from cancer, contain large numbers of the organisms, which are present in the peripheral blood in all cases of cancer cachexia. A large amount of work along the lines suggested by the results here summarized is foreshadowed, and if the expectations of the Buffalo laboratory are fulfilled we are on the verge of an era in which the protozoa will occupy a large part of the field of etiologic investigation. But we must not expect too much. The exact nature of the organism, or group of organisms, spoken of by Gaylord as protozoic in character, is not settled. The developmental cycles have not yet been traced by authoritative zoologists. Its occurrence in so many different conditions and the production in animals of different lesions are bewildering, to say the least. Definite, distinct, typical tumors with metastases, regional and general, have not been produced in convincing numbers and with convincing regularity. That many of the cell inclusions in carcinoma are not satisfactorily explained on the score of degenerations can not be doubted, but the claim that Russell's fuchsin bodies, Plimmer's bodies, and the protozoon forms and blastomycetes of other authors are all parts of the developmental cycle of one organism rests as yet upon too purely a morphologic basis to be accepted without hesitation.

LEUCOCYTOSIS IN TYPHOID FEVER.

It has become generally appreciated that, while in ordinary, uncomplicated cases of typhoid fever, the number of colorless corpuscles in the blood is, as a rule, diminished, or at any rate not increased, leucocytosis develops in the presence of complications; so that the discovery of this condition should put the clinician on his guard and stimulate to increased watchfulness. Systematic and repeated examination of the blood in cases of typhoid fever may thus be the means of detecting complications that might otherwise be unsuspected or be discovered only when they had reached a point at which relief could be afforded with difficulty, if at all. The presence or absence of leucocytosis, further, may be a most valuable diagnostic guide when perforation of the bowel is suspected or more or less well-defined symptoms of this condition have already developed. The importance of this sign under such conditions resides in the increased success with which surgical intervention for perforative peritonitis is being attended when the operation is undertaken early, before the inflammation of the peritoneum is too extensive or the constitutional disturbance too profound.

That leucocytosis, like other diagnostic aids is, however, not an infallible guide in this connection, is shown by several observations of more than ordinary interest, recorded by Dr. Colin K. Russell,[1] from the medical clinics of the Montreal General and Royal Victoria hospitals. He reports one case presenting doubtful signs of perforation of the bowel with a leucocytosis of 28,000, in which operation was performed, a perforation found and sutured and recovery followed. In a second case, in which definite signs of perforation were present, with a leucocytosis of 12,000, operation was likewise undertaken, the bowel sutured and recovery ensued. In a third case, on the other hand, in which classic symptoms of perforation developed, the colorless blood-cells numbered only 6100 and 4800 in two examinations at intervals of four days. Operation was undertaken, the ruptured bowel sutured, but the patient succumbed. In a fourth case in which pain and rigidity developed in the abdomen, chiefly in the left lower quadrant, a leucocytosis of 16,000 was found on one occasion and one of 13,000 on another. Operation, however, failed to disclose any indication of perforation or peritonitis. The wound was closed and healed without complication, the patient recovering promptly. The colorless blood-corpuscles averaged in three counts after the operation less than 10,000. A fifth case was attended with pain in the right iliac fossa, of sudden development and progressive intensity, and gradually developed rigidity, marked tenderness and distention and 17,000, 14,000 and 10,500 leucocytes to the cubic millimeter on three occasions. On operation no perforation was found, although two of the ileocecal glands were unusually tense and swollen. The wound was closed and the patient made an uninterrupted recovery. In a sixth case pain developed suddenly in the left hypochondrium, with tenderness on pressure, but without rigidity or tenderness elsewhere. The pulse remained unaltered, but the leucocytes were found to number 12,000 to the cubic millimeter. The general condition grew worse, some tenderness developed also in the right iliac fossa and the pulse became accelerated. On repeated examination the colorless blood-corpuscles numbered 12,000 to 14,000 per cubic millimeter. On account of the doubt operation was deferred, but sudden collapse developed, with signs of peritonitis, vomiting, rigidity, great tenderness and rapidity of pulse. The colorless blood-corpuscles now numbered 32,000. Operation was undertaken, but the patient succumbed.

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[1] Boston Med. and Surg. Jour., April 18, 1901, p. 374.

As a result of these experiences the following series of conclusions seems justifiable: In the presence of perforation it is a general rule for leucocytosis to occur, the degree of which, however, may vary within wide limits. The increase in the number of leucocytes, while appearing early, as a rule, may not be at all marked until general peritonitis and collapse have supervened. There may be an utter absence of leucocytosis in the presence of marked perforation and peritonitis; in fact, the number of colorless blood-corpuscles may be lower than normal. With typical signs of perforation and a definite leucocytosis, no such complication may be present, and an operation may be performed unnecessarily. A marked degree of leucocytosis may also attend complications other than perforation, for example, bronchitis, cholecystitis, etc. In the presence of pain and tenderness of the abdomen coming on suddenly in the course of an attack of typhoid fever—and in the absence of evidences of cholecystitis or other definite complication—and of a distinct leucocytosis, even without other symptoms of perforation, an exploratory operation is justifiable, even advisable, thereby obviating the danger of a fatal issue from too great a delay.

THE CLINICAL PICTURE NOT ALWAYS SUFFICIENT FOR DIAGNOSIS.

For some time the opinion has prevailed that the typical clinical picture of an infectious disease corresponds to the activity of a single typical organism. The clinical picture of many infectious diseases is usually a characteristic one, reappearing with satisfactory regularity in various epidemics and in isolated instances. Hence it would seem quite logical to conclude that diseases of this character always are caused by the same specific organisms. But the relations between the clinical picture of disease and the cause of disease are probably not as simple as apparent at first sight. As pointed out by Petruschky,[1] in a consideration of this question, the peculiarities of pathogenic organisms and of the individual patients modify greatly the relations between cause and disease as presented by the clinical picture. The varying virulence of the organisms and the varying susceptibility of the animal and human beings naturally lead to often great variations in the clinical manifestations. The comma bacillus does not cause severe cholera in all persons; there are mild forms of cholera, and comma bacilli may pass through the intestinal canal without causing any noticeable symptoms. Not only may diphtheria bacilli persist in the throat for long periods after an attack of diphtheria, but the bacilli may be found in healthy persons who have not had diphtheria, and the bacilli may be so persistent that it is practically impossible to remove them for good. After recovery from typhoid fever the typhoid bacillus may persist in the urine in enormous numbers even for years. These examples, and others are not hard to find, show that the active cause of a disease may be present, but not the disease.

On the other hand there may be present the clinically typical picture of a distinct infectious disease without its specific organism being present. Such cases are cleared up only by means of the most searching bacteriologic study. "Cholera nostras" may present the identical symptoms of Asiatic cholera, but it is not Asiatic cholera etiologically. Certain streptococcus infections of the throat reproduce perfectly the clinical picture of genuine bacillary diphtheria, and Petruschky claims that croupous pneumonia may be caused by a variety of organisms, especially streptococcus longus and Friedländer's bacillus. In this case, however, it is always possible that the pneumococcus may have escaped detection. Pleuritis, peritonitis, cystitis, cerebrospinal meningitis, etc., may be caused by various different bacteria, the clinical and even the anatomical pictures being quite alike. The clinical differentiation of typhoid fever is difficult. It took a long time before it was separated from other fevers. Miliary tuberculosis and meningitis are even now distinguished from typhoid with great difficulty, the definite diagnosis at times being made only after careful bacteriologic examination. Recently it has been indicated that other bacteria than the typhoid bacillus, namely the so-called para-typhoid bacilli, may produce the clinical symptoms and signs of typhoid fever. As has recently been made clear, dysentery may undoubtedly be caused by several different micro-organisms.

One conclusion that may be drawn from the foregoing considerations is that, strictly speaking, the recognition of the clinical picture of an infectious disease is not always sufficient for its diagnosis. The clinical picture owes its existence to the infecting agent. The clinical examination as ordinarily done can not possibly reveal with certainty the cause of the clinical and anatomical disturbances, and it must be accepted that bacteriologic examination is essential for the scientific diagnosis of an infectious disease. In order to emphasize this aspect of diagnosis Petruschky urges the introduction of an etiologic nomenclature. An exact nomenclature would spur to renewed study and to bacteriologic examination in order to establish exact etiologic diagnosis. Streptosis, staphylosis, spirillosis, plasmodiosis, bacillosis are some of the terms he suggests, which may be modified in various ways to meet the special indications. It is a well-known fact that our nomenclature can not be changed through the spasmodic efforts of any one reformer, be the reasons ever so just. And yet we believe that all thoughtful physicians are in hearty sympathy with all effort that tends to make diagnosis more definite, and out of this feeling there may in time spring a more precise terminology than the present.

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[1] Zeitschrift f. Hyg. u. Infectionskr., 1901, xxxvi, 151.

THE ASSOCIATION OF AMERICAN PHYSICIANS.

The sixteenth annual meeting of this medical body, just held in Washington, D. C.—where all its meetings are held—seems to have been exceptionally successful from the point of attendance as well as in the scientific program and discussion. In the president's address, Dr. William H. Welch, of Baltimore, made the significant observation that the day for formal addresses before bodies like this had passed. It would be well if this sentiment became more general, because much valuable time is consumed in the delivery, and much valuable space in the printing, of introductory addresses of but little real value. Dr. Welch emphasized that while the opportunities for research in the more technical branches of medicine at present are unexcelled in this country, yet scientific work of an advanced character in clinical medicine had not developed as much as might be wished. As has been pointed out in the columns of THE JOURNAL,[1] the majority of our large hospitals are not yet organized in such a way as to render the proper sort of post-graduate work in clinical branches practicable and inviting. Dr. Welch recommended the introduction of the system of hospital residents as an important step toward the development of clinical post-graduate work. The essential point is that under the hap-hazard and too frequently political methods of appointing hospital staffs no regular, systematic plans for training young men in clinical medicine have been developed.

Many papers worthy of special note were presented and discussed. The work of Dr. Reed[2] and his associates on the etiology of yellow fever, the main facts of which are now quite generally known, has been corroborated and supplemented by more recent investigations, the results of which were presented at the meeting by Dr. Reed. It seems to be definitely settled by these researches that the cause of yellow fever is present in the blood of those attacked, that it is inoculable by certain mosquitoes, and that it is not transferable by fomites. Hence a large part of the mystery of the etiology of yellow fever has been removed, and the remark, in the discussion of Dr. Reed's presentation, that next after the discovery of anesthesia these demonstrations in the etiology of yellow fever are the most important medical discovery made in this country, is probably not at all an extravagant statement.

Dr. Billings's remarks on the progress of pernicious anemia, as illustrated by the course of the twenty cases reported by him at the meeting in 1900, were received with interest. Longer periods of improvement than ordinarily taught have been observed, and also the fact that with decided exacerbation in the condition of the patient large numbers of nucleated red blood-cells appear in the circulation. The spinal cord lesions of pernicious anemia were also discussed.

The demonstrations of specimens of experimental and spontaneous acute and hemorrhagic pancreatitis by Dr. Flexner and Dr. Opie are noteworthy because it was shown that the disease may be studied experimentally, and especially because Dr. Opie's specimens illustrated the intimate relation that appears to exist between pancreatitis and calculi in the ampulla of Vater.

Dr. Herter presented important work on the relation of acid intoxication to the development of diabetic coma. By special chemical methods the amounts of organic acids in the urine, especially di-acetic and B oxybutyric, may be measured accurately. In diabetes the amounts of these acids may increase to such an extent that they are not neutralized by bases. Such increase precedes and coincides with diabetic coma, so that the methods offered afford a practical method for recognizing the onset of this most dangerous complication. Sugar determinations alone have no particular prognostic significance.

Finally mention may be made of the fact that the members of the recent commission sent by the authorities in Washington to investigate the plague in San Francisco gave a summary of the results of their investigations. With these the readers of THE JOURNAL are familiar already. The great value of the work of the Commission was freely recognized.

The foregoing may serve to indicate the high character of the work of this meeting of the Association, a more detailed account appearing in our Society Reports.

A CORONER ON DOWIEISM.

The verdict of a Cincinnati coroner[1] in the case of a girl who died under Dowieite neglect is worth quoting from. After giving the history of the case and the cause of failure of their treatment as given by the Dowieites, viz., that it was due to disobedience in not perfectly using the light which they claimed she had received from God, he says: "Their explanation, if it reflects the teachings of their church, implies the existence of an angered Deity, who refused the petition for restoration to health to a smitten child because of a fancied disobedience. Such doctrine is unnatural and unmerciful; it destroys the solacing influence of prayer and makes religion the merest travesty." He then goes on to say that while the state does not dictate the treatment of the sick, it favors the calling in of men of skill and science whose efforts have arrested the spread of disease, and pleads, for the sake of those afflicted, the use of human aid, which he says has more in it of religion in these cases than all the prayers for the repetition of the miracles of Scripture. It is a pity he could only plead, and did not hold for some punishment the false teachers and inhuman parents who claimed to see a just punishment of the victim in the results of their own cruelty and neglect.

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[1] April 13, 1901, p. 1048.

[2] JOUR. A. M. A., February 16.

[1] Lancet-Clinic, May 4, 1901.

A DISHONEST REFERENCE.

We recently printed, in the Current Medical Literature Department of The Journal, a brief abstract of a paper—from the pen of a Chicago physician—on medical advertising, that appeared in a leading eastern medical weekly. The abstract baldly reproduced some of the more striking opinions and some of the criticisms, made by the writer, of the advertising methods by which the spirit of the Code of Ethics is evaded and its provisions surreptitiously violated. We are somewhat shocked and surprised to find this abstract quoted *verbatim* as an expression of opinions in a "review of a current medical literature article" by "the highest ethical authority of the country," in an alleged quotation from the remarks of a disgruntled Leadville physician. The flagrant dishonesty of such use of a simple uncritical résumé of a published paper is self-evident; the supposition that it was honestly taken as the expression of opinion in a "review" is too untenable.

THE HOLMGREN TEST.

In the text-books on ophthalmology the Holmgren test for color-blindness is generally mentioned as the most satisfactory and practical; in some of them other tests are scarcely even mentioned. The efficacy of the worsteds has become as it were an established dogma of ophthalmology, that it is almost heresy to question, and any mistake or even hesitation in sorting them is held to be enough to establish the existence of an irreparable color defect. Dr. Edridge Green, however, is one of the heretics, and in a recent article[1] he reiterates his views and quotes a number of authorities to show that he is in respectable company. It is not his object, he says, to point out in what ways the test is defective, as he has done that elaborately enough elsewhere, but to quote the similar views of others, including some of those who had hitherto opposed him. Among these are Dr. Anderson Critchett, the president of the British Ophthalmological Society, Mr. T. H. Bickerton, one of the former advocates of the test, Dr. Karl Grossman, St. Clair Buxton and others, and he points out internal evidence of its insufficiency in the report of the Committee of the Royal Society, on the basis of which it was adopted by the Board of Trade. In its summary of cases detected it includes five where the wool tests failed, but none that passed all the lantern tests; hence the presumption of the superiority of the latter. While he is convinced that Holmgren's test causes the rejection of many normal sighted persons, and that three divisions of the dangerously color-blind nearly always escape detection by it, Green only asks for a renewed careful and unbiased inquiry. It is a reasonable demand and should be acceded to, and there is unquestionably good reason for it. The Holmgren test certainly is about as far as possible from reproducing the actual conditions where color vision is demanded, and this alone should be an efficient argument against it. A test on which the safety of the public may depend, to say nothing of justice to the individual tested, should be reliable beyond reasonable criticism. It should take into account quantity as well as quality of color vision, and should fairly meet all the actual conditions where a perfect sense of color is required. There are so many points in regard to color vision yet unsettled that any dogmatic adherence to a questioned method would seem like the worst kind of false conservatism.

SOME ODDITIES IN SUICIDE.

A young man, an ardent advocate of "Christian Science," recently committed suicide rather than be prescribed for by a physician. It is one of the anomalies apparently of that special sort of faith, that it has no confidence in itself in competition with medical practice. If a physician gets the case it would seem that "Christian Science" or Dowieism goes to the wall in the belief of their adherents. Hence the suicide, and the general opposition they have always shown to medical interference. Disease does not exist, according to Mrs. Eddy, but apparently the baleful action of drugs or even of a physician's advice is a reality. Like the victim of persecutory delusions, who kills himself for fear of death, such "Christian Science" paranoiacs commit suicide actively or passively for fear of medicines. Unfortunately the most of them are only too ready at all times to commit homicide on some unfortunate babe or irresponsible invalid. Another case of attempted suicide of some medical interest in its sequelæ is reported in the newspapers. A millionaire finding life burdensome cut his throat, it is said, "in an earnest and painstaking manner." A physician, called in by outsiders, sewed up the wound and saved his life. When he sent in his bill, however, there was trouble; not only was it considered exorbitant, but there was no authorization for the services rendered; they were uncalled for and unwelcome, and being thus gratuitous in one sense should be so in the other. The defense certainly would have been good for most services thus bestowed, but the case did not come to trial, being finally settled out of court. It is unfortunate in some respects that the medicolegal questions involved could not have had a judicial decision, such for example as the right to claim a fee for professional services demanded as an act of humanity or to prevent crimes. Suicide, if we are not mistaken, is or has recently been a felony under New York law and the defendant here may have had reason for not wishing this point to be too much elaborated. The case is an interesting one at least in its suggestiveness.

PESTIS MINOR.

A suggestion that will carry the more weight as coming from the editorial columns of the *Journal of Tropical Medicine*, for April 15, is at first sight a little startling. It is that we have occurring in various civilized communities occasional cases of a disorder at least closely allied to true plague. The writer gives the account of a case, with bacteriologic examinations, that occurred in a European hospital, so far as could be ascertained, without any history or suspicion of contact with plague cases. He classes this case as pestis minor, with a bacillus allied to that of true plague, and says. "What are we to infer from this and other cases which have occurred? The conclusion seems obvious, namely, that in Europe at the present moment sporadic cases of pestis minor are occurring which are unrecognized and excite no suspicion of their true nature. We have become familiar with the term 'glandular fever' of late years, and it is possible that the illnesses of many children with febrile symptoms and general adenitis are being grouped under this head, which, were they as carefully tested as the boy referred to in this article, would exhibit bacteriologic indications justifying their being placed in the plague category as pestis minor." If, as the writer says, plague may exist in a sporadic form and pass unrecognized, the idea that there are unpleasant possibilities where they are perhaps least suspected is hardly avoidable. It is true, he claims that pestis minor is a fairly well-defined ailment that may precede, run concurrently with or continue after true plague as well as occur independently, and quite distinct from pestis ambulans which is only a mild form of the latter, though the two are frequently confounded. It seems also to be the case that, as in the boy referred to, the bacilli may be few in number and wanting in the virulence of those of true plague. In this we have a parallelism with certain other diseases that apparently exist in attenuated or modified forms; the question is whether this is a modified form of true plague and whether there is any possibility of its giving rise, under favorable conditions, to the more virulent type. Thus far there is no real evidence that it does, and the isolated character of such a case as the one reported would indicate no connection between the two. It is stated that no plague was known to exist in the city or even in the country where the case occurred. On the other hand, however, we can not ignore the possibilities of unrecognized cases or means of infection, and it has been charged that many unreported cases of plague have occurred in European ports. There are evidently many points in regard to the plague yet to be elucidated, and this question of pestis minor, the conditions and frequency of its occurrence, and its connection with the severer types is one of them.

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[1] The Lancet, April 13.

Medical News.

CALIFORNIA.

Dr. Albert H. Taylor, San Francisco, has sailed for Europe. He will take post-graduate work in Vienna.

Cooper Medical College, San Francisco, graduated a class of 27, April 23. Rev. Bradford Leavitt delivered the address to the class, on "A Man's Duty to His Mind."

Health Officer Dr. John A. Colliver, San Bernardino, resigned April 20, and Dr. Charles A. Mackechnie was elected in his stead. Dr. John N. Baylis was elected permanent chairman of the board of health.

French Hospital Changes.—With the change of superintendent of the *French* Hospital, San Francisco, certain changes in the staff have become advisable. On April 17, Dr. F. Dudley Tait was re-elected surgeon and Dr. F. P. Canac-Marquis, formerly of St. Paul, Minn., gynecologist; Dr. Marcus W. Fredrick, oculist; Dr. Martin Krotoszyner and Dr. Casimir F. Pawlicki were elected to the staff.

DISTRICT OF COLUMBIA.

Dr. Luther H. Reichelderfer, Washington, has been appointed superintendent of Garfield Memorial Hospital.

Howard University Medical Department, Washington, held its commencement exercises, May 8, and graduated a class of 19, which included 3 West Indians and 1 Burmese.

The Episcopal Eye, Ear and Throat Hospital, Washington, has purchased a lot for its new buildings, at an expense of $9500. The erection of the new buildings, will be begun as soon as $25,000 has been subscribed to the building fund. Of this amount more than $3500 has been already secured.

The late Dr. Samuel C. Busey, Washington, bequeathed his collection of Washingtonia to the Columbia Historical Society, and the remainder of his miscellaneous library to the Washington Free Public Library. He further directed that his medical library, instruments, and appliances be presented to some public hospital or medical association, institution, or library, on condition that the recipient provide proper rooms therefor.

ILLINOIS.

A bill has been passed authorizing the erection of a permanent hospital at Camp Lincoln, near Sprinfigeld.

The new building of the Cottage Hospital, Peoria, was saved from destruction by fire, by the timely discovery of combustibles so prepared that the building probably could not have been saved had the fire been started. It is supposed that the labor troubles which have delayed the completion of the building are responsible for the attempted crime.

Chicago.

Dr. George W. Webster has been appointed a member of the State Board of Health, to succeed Dr. M. Meyerowitz, resigned.

Dr. William T. Belfield was elected president of the American Association of Genito-Urinary Surgeons, at the meeting at Old Point Comfort, Va., May 1.

A hospital for its employees and for the residents of the vicinity is to be constructed at a cost of $50,000 by the Crane Company, at Judd Street and Twelfth Place.

The Cook County Hospital Investigation has closed. The following is the report of the grand jury: "From the evidence submitted to us we are glad to state that, in our judgment, the charges of general bad management, neglect and cruelty were not sustained."

Public Health Conditions.—These are fairly satisfactory. With the exception of measles the contagious diseases are all of a mild type and their mortality, especially that of diphtheria, is unusually low. Some increase of the influenza and pneumonia organisms is reported, undoubtedly due to the recent dry and dusty condition of the atmosphere.

Effect of Speculation.—The Department of Health says speculation is beginning to tell on the death-rate. For the week ended May 4 the deaths numbered 566, or a mortality per 1000 of 16.77 per annum. For the week previous the deaths were at an annual rate of 13.55 per 1000, and for the week ended May 5, 1900, 1498. Heart disease, pneumonia, Bright's disease and consumption accounted for 87 of the total excess of 109 deaths of this week.

Streets Should be Watered not Sprinkled.—The economy of water for public uses is peculiar to Chicago. With the most abundant supply of any large city, upward of 190 gallons daily for every man, woman and child, against an average of 118 for other large American cities and less than 40 for European cities—there are no fountains to wash and cool the air nor running streams in the gutters to catch the dust from street and sidewalk. It is little wonder that catarrh is universal and dust diseases more prevalent than elsewhere. The proposition to flush the streets into the sewers after they have been swept, says the Health Department, should be carried into effect forthwith as a sanitary measure of the first importance.

INDIANA.

Dr. W. C. Duddenhausen, Evansville, has been appointed house surgeon at the Good Samaritan Hospital, Lexington, Ky.

Important Omission.—It was discovered on May 1 that Representative Minturn's amendment to the Wood medical law, exempting from its provisions practitioners of osteopathy, electropathy, hydropathy and massage, had been cut out and does not appear in the printed acts requiring such practitioners to obtain licenses from the State Board of Medical Examiners. An investigation is in progress.

KANSAS.

Dr. Charles L. Ebnother, Downs, has been elected a member of the city council.

Smallpox.—During March 1612 cases of smallpox were reported in the state, with 8 deaths. Four new cases of the disease were reported to the Topeka Board of Health A[illegible] 18. On account of the increase of smallpox in Iola, [illegible] of Health is considering the advisability of forbidding all public gatherings.

Reforms in Care of Insane.—The board of charities will divide the three insane asylums into special institutions. The new asylum at Parsons will be used for the care of epileptic patients; the Topeka asylum for incurables and the Ossawatomie institution for convalescents, or patients who can recover. Instead of erecting one large building at Parsons, it has been decided to build a number of cottage buildings, enough to hold from fifty to eighty patients each. The cost of their construction will be a little more than if one large building were erected, but the board thinks the results will justify the increased cost.

KENTUCKY.

Dr. George B. Young has succeeded Dr. H. R. Carter, in charge of the Marine Hospital, Louisville.

The new Isolation Hospital for Flemingsburg and Fleming County has been completed and now has about ten patients.

Louisville National Medical College held its thirteenth annual commencement April 10. Miss Prima A. Fitzbutler delivered an address on "Specialists."

Dr. Emmett B. McCormick, Owensboro, has been removed from the superintendency of the Western Kentucky Insane Hospital, Hopkinsville, on account of alleged improper conduct. Dr. McCormick states that he will sue those who have conspired to secure his removal and promises interesting disclosures in his final official report.

MARYLAND.

Dr. S. F. Thomas has been appointed health officer of Frederick City.

Hagerstown has three cases of smallpox in two houses. Dr. Fulton has directed the local board to vaccinate all laborers going to the town.

Baltimore.

The Health Department reports 188 deaths for the week ended May 4, an annual death-rate of 18.07 per 1000.

Suit against the city has been brought by a woman to recover $10,000 damages for alleged unskilful and careless vaccination stated to have caused paralysis in her left side.

Dr. Melvin S. Rosenthal, formerly assistant quarantine physician, has returned after a study tour of thirteen months in Europe, during which he took special courses at Berlin and Vienna.

The Maryland General Hospital, belonging to Baltimore Medical College, has been placed in charge of the Sisters of Charity, eight in number, from various convents. This will not interfere with the nurses' training school of the college.

Trained nurses are being added to the various dispensaries, to attend the physicians during examinations and operations. This is required now by the Board of Charities through which all appropriations to hospitals and dispensaries are made.

An Experiment Station.—A building for this purpose is being erected in the courtyard of the Health Department. It will be stocked with animals for bacteriologic and antitoxin experiments by City Bacteriologist Stokes, and Secretary Fulton of the State Board of Health. The experiments will be directed for the present toward observing the effects of pneumonia and typhoid fever antitoxins. The antivivisectionists have protested against it.

Baltimore Medical College.—This institution conferred the doctorate degree on a class of nine-six, April 23. The following were elected to places on the resident staff of Maryland General Hospital: Dr. E. H. Hayward, resident physician; Dr. M. MacCallum, first assistant; Dr. W. C. Abel, second assistant; Dr. J. S. Woodward, third assistant; Dr. G. H. Dill, lying-in hospital resident; Dr. H. F. Gorsuch, alternate assistant.

MISSOURI.

State Board of Health.—The governor has appointed as members of the State Board of Health, Drs. Benjamin G. Dysart, Paris; A. W. McAlester, Columbia, and Winn F. Morrow, Kansas City.

Weltmer and Kelly, the "absent" healers of Nevada, who plead guilty to practicing medicine without a license, were find $1500 each by the judge of the Federal Court, Kansas City, April 26.

For failing to report smallpox two physicians of South St. Joseph were arrested April 29, on warrants sworn out by the city physician, who attributes the spread of the disease to such neglect.

New City Hospital, St. Louis.—The building commissioner estimates that six of the fourteen buildings contemplated for the new City Hospital will be completed this year, costing $300,000. The buildings erected will be the isolation ward, two surgical wards, one surgical operating building, laundry and power house building, kitchen and employees building. These will accommodate 200 patients and 63 employees.

NEW YORK.

American Congress of Tuberculosis.—Drs. John H. Pryor, Buffalo, Frederick C. Curtis, Albany, and Alfred Meyer, New York, have been appointed delegates to represent the state at this Congress, to be held in New York City, May 15 and 16.

State Mortality.—According to the monthly bulletin of the State Board of Health, there were 11,913 deaths from all causes and a death-rate of 19.2; a decrease from a daily rate of 394 in February to one of 384. During the first three months of the year there have been 35,529 deaths, including delayed returns, a daily rate of 395, which exceeds that of the same months in 1900 by 12 deaths daily.

Increase of Insanity.—The State Charities Aid Association, in its eighth annual report, calls attention to the alarming increase of insanity in the state, altogether out of proportion to the increase in population. The average rate of increase per year is 700, and it is estimated that by next October accommodations must be provided for 2100 additional patients. There are now 22,000 dependent insane in the state. The report suggests that, in order that the insane may receive the benefit of the best medical skill at the outset, reception hospitals be established, where better opportunity would be given for careful observation and intelligent classification before distributing the patients to the various state hospitals. It proposes to establish such a reception hospital in New York City, under the charge of the Manhattan State Hospital, thus doing away with the insane pavilion at Bellevue Hospital. Eminent neurologists and alienists have already signified their willingness to serve as attending and consulting physicians to such a reception hospital if it is established in a reasonably accessible locality.

Smallpox.—The *monthly bulletin of the State Board of Health* says that the matter of chief interest affecting the health of the state continues to be smallpox and epidemic influenza. The bulletin states that smallpox exists in nineteen separate municipalities of the state at this time. In most of them it has no foothold and will disappear with the recovery of the initial cases. In some it has established itself widely from failure to discover the first case. From the health officer's standpoint chicken-pox is an untenable diagnosis, at this time; many prolonged epidemics would have been prevented by holding to this. "Cuban itch" is a name given to outbreaks like that of Brockport, lasting for weeks until a well-marked case has shown it to be smallpox, as it always proves to be. La grippe with eruption has also been a mal-diagnosis. The extraordinary mildness of the type of smallpox now prevailing should make health officers guarded even in the least suspicious case. Every acute eruption, papular in quality, on the hands and face, following even a slight initial fever, should be suspected and isolated. With insignificant cases come some typical cases, severe and even fatal; otherwise it might almost be ignored. There were thirty-nine deaths from small-pox during the month, two in Gloversville, the rest in New York City.

Buffalo.

Dr. George A. Himmelsbach and wife have sailed for a three-months' visit to Europe.

New York City.

Dr. Carlo Savini has been made a Chevalier of Italy, for professional services rendered to a friend of the King of Italy.

Dr. Edward W. Lambert recently left for a continental tour, to include Russia.

Dr. Roger S. Tracy has retired from the position of registrar of records in the Health Department, after thirty-one years of service in that office. He is responsible for the present system of keeping records of vital statistics in this city, a system which has been followed in others.

Edward N. Gibbs Memorial Prize Fund.—The trustees of the New York Academy of Medicine announce the receipt of $10,000 from Mrs. Sarah Barker Gibbs and Miss George Barker Gibbs, for the establishment of the Edward N. Gibbs Memorial Prize Fund, the income to be awarded triennially to the physician of regular standing, in the medical profession of the United States of America, who shall present the best original essay on the etiology, pathology, and treatment of the diseases of the kidney.

New York Pathological Institute.—In spite of indignant protests from eminent scientific men both here and abroad, politics has gained entrance to the Institute. The medical director, Dr. Ira Van Gieson, has been making strenuous efforts to secure an injunction restraining the State Commission in Lunacy from removing him from office, although the institute has no funds and has been practically legislated out of existence. The members of his staff have submitted their resignations to take effect when he is removed.

OHIO.

Dr. David B. Steuer and wife, of Cleveland, sailed for Europe May 4.

By the will of the late Dr. Ellis Jennings, St. Elizabeth's and Deaconess hospitals, Dayton, each receive $2000.

Dr. Alexander J. Erwin, Mansfield, who spent the winter in Egypt and recently has been visiting the eye, ear and throat clinics of Paris and London, has returned to Mansfield.

Dr. Starling B. Wilcox, assistant surgeon U. S. army, has succeeded Acting Assistant Surgeon Najib Taky-ud-Deen, U. S. Army, as surgeon of the hospital at Columbus Barracks. Dr. Wilcox recently returned from Manila, and Dr. Taky-ud-Deen is under orders for the Philippines.

Cincinnati.

The Medical College of Ohio held its *commencement* exercises, May 7, and graduated a class of fifty-eight.

Laura Memorial Medical College held its commencement exercises May 2, when five young women were graduated. Dr. A. H. Freiberg delivered the valedictory.

Miami Medical College held its commencement exercises May 1. A class of twenty-five was graduated. Dr. E. W. Mitchell delivered the valedictory. The meeting of the Alumnal Association was held in the evening.

Cincinnati College of Medicine and Surgery held its semi-centennial and annual commencement exercises May 1. Sixteen were graduated. Dr. W. H. Wenning delivered the valedictory. The alumni of this institution held their annual meeting in the afternoon and appointed a committee of ten to devise means for raising $30,000 for the erection of a new college building.

Prompt Action Saves Life.—Considerable interest has been aroused in this city by the prompt and commendable action of a physician. A child, about 2 years old, had swallowed at least an ounce of rather strong carbolic acid, and when taken by the mother to the hospital was then *in extremis.* The child was so young and the throat and esophagus so swollen by the acid that no tube could be passed. The doctor succeeded in passing a small catheter, and filling his mouth with olive-oil, forced several ounces of this through the tube into the child's stomach, and then sucked out the mixture, repeating the operation several times. The child has made a complete recovery and the doctor, beyond anesthesia of the mucous membrane of the mouth, was none the worse for his trying ordeal.

PENNSYLVANIA.

West Penn Hospital, Pittsburgh, has elected Drs. Ewing W. Day and Lawrence Litchfield, Pittsburgh, as members of its staff.

Through the will of Henry Amole, of West Nantmeal township, a residual legacy will revert to the Chester County Hospital and Chester County Insane Asylum.

East Side Hospital, Altoona.—A number of Altoona physicians have taken the first steps toward starting a private hospital at Altoona, and have agreed to pay $20 a month each until the hospital is self-sustaining. Among the organizers are Drs. George A. Ickes, Elmer E. Neff, Frederick H. Bloomhardt; William M. Findley, Joseph D. Findley, James E. Smith and Charles W. McConnell.

Philadelphia.

Dr. William E. Hughes, professor of clinical medicine at the Medico-Chirurgical College, gave a reception to the medical society of the college, at his home, May 1.

A Committee of Physicians.—Provost Harrison, of the University of Pennsylvania, has appointed the following committee to assist him in promoting the welfare of the University: Drs. James Tyson, Thomas J. Yarrow, D. M. Cheston, Radcliffe Cheston, George S. Gerhard, Richard Cleeman, James Darrach, Frederick A. Packard, Edward L. Duer, William R. Dunton, Theodore Fassitt, Joseph Leidy, Charles A. Oliver, Thomas C. Potter, Charles Seltzer, Wharton Sinkler, A. P. DuSmith, Samuel Stryker, J. B. Walker and Matthew Woods.

Pay Hospital for Contagious Diseases.—Through the energetic efforts of Drs. J. Madison Taylor, George M. Gould, Edwin Rosenthal and others the pay hospital for contagious diseases will soon be a reality. The plans for the building have been made and the contract will be let within the next few weeks. Five acres of ground have been purchased. The plans call for the construction of three fireproof buildings, one each for smallpox, diphtheria and scarlet fever, and three isolated cottages, each of which shall contain four rooms for the treatment of other contagious diseases. Each ward of the hospital proper will contain twelve rooms for patients.

A Large Medical Fee.—Concerning the medical fee of Dr. Browning, noticed in last week's Journal, he advises us that the $190,000 was made up of the monthly accounts rendered to the patient, and the total named was simply a total of the bills rendered. As an inducement Mr. Magee—the patient—offered Dr. Browning double his regular charges for night service, to give him exclusive attention at nights, and while the Doctor rendered his bills at regular charges each month, Mr. Magee, according to his promise, crossed out the regular charges for night service and doubled them, certifying the bills thus changed by him. By this change of his own, had the executors paid these bills, they would have paid, without public knowledge, $317,000. During the twenty-one months he was under treatment the patient received nearly 5200 hours of the Doctor's service, and nearly 3200 hours of this was attention at night.

GENERAL.

Quarantine exists against the City of Mexico, according to press reports, on account of the typhus fever prevalent there.

The Surgeon General of the U. S. Marine-Hospital Service has received a report from the chief quarantine officer of Cuba, under date of April 23, stating that there were, at that time, no known cases of yellow fever on the Island of Cuba.

The antivaccination bill that recently passed both houses has been protested against by Honolulu physicians, through the Honolulu Medical Society. A committee was appointed to ask the governor to exercise his veto.

Epidemic Among Indians.——A disease said to be similar to smallpox is epidemic among the Indians of Sitka and Baranoff Island, on which the ancient capital of Alaska is situated. Three deaths have occurred. Sitka physicians do not agree as to the nature of the disease. No case has occurred among the whites of Sitka so far. The same disease is said to prevail among the Indians of South Eastern Alaska.

CANADA.

Dr. James Stewart, of Montreal, at the meeting of the American Association of Physicians, was elected vice-president.

Montreal's civic health committee has ordered that the three hundred prisoners in the common gaol be vaccinated, as some of the prisoners slept recently in a smallpox-infected house.

Convocation Exercises were held at Dalhousie University, Halifax, on the 30th ult., when ten graduates in medicine received their degrees, one of them being a woman, the first Halifax lady to take this degree at Dalhousie.

The Longue Pointe Asylum, in the province of Quebec, has just been completed, and has accommodation for 2000 patients. The nursing staff consists of 200 sisters of the church. The cottage plan has been followed in the construction.

Montreal General Hospital.—During April, 210 patients were admitted, 190 discharged and 23 died, the greater number of deaths occurring within three days of admission. The average daily number of patients in residence was 153. In the out-door dispensary department there were 3136 consultations.

Samaritan Hospital.—This Montreal institution, in its annual report for the past year, shows 110 in-door patients. During the year 142 operations were performed, and only 5 deaths occurred, 3 of which followed operations, thus giving a death-rate of a little over 2 per cent. There were 250 out-door patients.

Smallpox in British Columbia.—In connection with the progress of the smallpox patients in the province of British Columbia, Dr. Fagan, the provincial medical health officer, reports very satisfactory progress. Dr. Fagan recently visited the Kootenays, and at Phoenix, Cranbrook, Moyle, Fernie, Michel, Nelson and Rossland there were cases of smallpox, but all necessary precautions were being taken. No general quarantine now exists against any of these towns. At the St. Eugene Mine, where one case existed, seventy-five men were isolated, but allowed to carry on their work.

The Ladies of Carberry, Manitoba, thought they would have a hospital for that town, but apparently everything is not working harmoniously as the male part of the population, the professional and business men are antagonizing the proposition, and the town council has refused any money for the purpose. The adjoining township of North Cypress voted $500 for the purpose, but hedged the vote around with such conditions that the ladies could not accept it. It will be interesting to watch who will win out in the fight, as "have a hospital we must," say the ladies, and now and again such determination means something.

Victoria Asylum for Women.—Arrangements are being rapidly made for the opening of the Victoria Asylum for Women, at Coburg, Ont., in September next. Dr. McNichol, of Coburg, has been appointed superintendent, and Dr. Harriet Cockburn, of Toronto, assistant physician, the Ontario government thus recognizing the claims of women physicians, the first instance in Ontario. Dr. McNichol has retired from private practice and is familiarizing himself with asylum work in the different asylums of the province. Dr. Cockburn has had considerable experience in hospital work, having been at one time connected with the Dakota State Asylum for the Insane.

Action of Medical Council.—Some 700 of the 2400 or 2500 doctors practising in Ontario have had their names erased from the register of the Medical Council, as reported in these columns a few weeks ago. On May 3 a deputation representing these delinquents waited on the Ontario government to protest against the action of the Council. The deputation, composed mostly of practitioners outside of Toronto, was headed by Dr. Sangster, of Port Perry, himself a member of the Council and the leading spirit in this matter some ten years ago. They claim that the profession is not properly represented on this body and hence their action in refusing to pay their annual fee of $2. As a matter of fact the Medical Council is composed of thirty members, thirteen of whom are representatives of the colleges and universities and the homeopathic body. One hundred of the delinquents have paid up in full. The balance expect that the government will have the Medical Council stay proceedings until the annual meeting of that body in July.

Contagious Diseases of Animals.—This question is receiving attention at the hands of the minister of agriculture. A bill is before the House of Commons which will amend the act respecting these diseases among animals, and will prohibit the selling or putting off of an animal suffering from infectious or contagious disease, or the meat, skin, head, horns or other part of such animal under a penalty not exceeding $200. The amendment will permit the minister of agriculture, by regulation, to exempt from the operation of this section, the meat, hide, horns, hoofs or any other part of an animal, where he is satisfied infection can not be communicated by the sale of such. A further amendment provides that where an animal has been found to be infected with any infectious or contagious disease, and such animal is afterward slaughtered while in an infected place or in quarantine, the meat of the animal may, notwithstanding anything in this act, be sold and used for human food, if previous to such sale or use it is certified by any lawfully appointed health authority having jurisdiction in that behalf, that it is not affected with such disease.

FOREIGN.

Progress of the Plague.—During the week ending April 20 in Cape Town, Africa, 46 new cases of plague occurred and 28 deaths therefrom, this making the total number of cases up to that date 449, with 182 deaths. The two following days, April 21 and 22, 7 and 12 new cases respectively were reported. In Bombay, reports for the week ending March 30 ascribe 886 deaths to plague, showing a decline in the death-rate in every district in the city. In Calcutta, on April 1 and 2, there were 127 and 162 new cases respectively, with 129 and 158 deaths. In the Patna district, in Bengal, 2529 fatal cases occurred during the week ending March 23, and there was an increase of 147 the subsequent week. Reports from Mauritius, for the week ending April 18, show 2 new cases there, with no further deaths.

PARIS LETTER.

Cocain Injections and Narcosis.

Intrarachidian injections of cocain as a means of producing narcosis are as much as ever the subject of discussion. The discussion as to their true value and as to whether they can supersede ether and chloroform has entered on a more acrimonious phase. At the meeting of the Academy of Medicine, March 19, Professor Reclus, who has always been the champion of cocain as a means of performing such operations as kelotomy and laparotomy, discussed this method. He is not in favor of it as practiced at present, and he said that in some cases one is unable to insert the needle into the rachidian space and in others the needle is stopped up, or anesthesia does not take place for some unknown reason. In others anesthesia only comes on after half an hour, or disappears after a few minutes. Untoward symptoms may be seen, such as tremulation, nausea, vomiting, seen in one out of every two or three cases, paralysis of the anal sphincter with consequent incontinence, paraplegia and intense headache lasting several days. In some cases syncope may supervene, and there have been several cases of death. If some, like those of Julliard, of Tuffier, can not be laid to the account of cocain, the same can not be said of those of Humbert, Dumont, Jonnesco, King, where the use of cocain has been the real cause of death. When one considers the small number of operations compared to the number of accidents, one is obliged to admit that it would be premature to abandon the older methods. At a meeting held a week later, Professor Laborde, who is a well-known physiologist in France, indicated the results he had obtained by observing the effects of injections of cocain on animals. There are two periods of intoxication observed: In the first there is extreme hyperexcitability, the animal trembles, is agitated and even has convulsions; the second period is characterized by analgesia without tactile anesthesia. Intrarachidian injections, when used on man, can not prove quite harmless, as they disturb the equilibrium of the intrarachidian pressure. It should be remembered that the patient does not remain quiet after the injection, and as the cephalorachidian liquid is always in motion, cocain may be made to act on the bulb and even the brain. According to Professor Laborde, this method is, therefore, a dangerous one and cocain should only be used locally.

Dr. Reclus' remarks at the Academy of Medicine caused some comment and he, therefore, wrote a letter to the *Presse Medicale*, as follows: "Some of my provincial colleagues seem to consider my report altogether too conservative. I hardly think this can be said, as I have studied the technique of the intrarachidian injections and after having tried them have found they offered most distinct disadvantages. The day they are shown to be less dangerous than the use of ether or chloroform, I shall be glad to adopt such a method." Dr. Reclus added to this a letter he had received from Dr. Bier, which is of interest as showing that the first to use these injections in Europe is not satisfied with the technique now employed. Dr. Bier writes: "I am glad to find that I agree so thoroughly with you, the master of anesthesia by cocain. Such as the method is used in France, it can not be employed. It was hardly necessary to perform 1200 operations; the first six had sufficed to enlighten me. I cannot understand such enthusiasm, which is not quenched by so many disagreeable accidents. I would advise such operators having the injections performed on themselves, as I have done, and they might then change their mind. I have abandoned my first method after this experience, but I have continued my researches with due prudence, and I believe I can now recommend a new technique which I will describe at the Medical Congress held in Berlin on the 11th of April. If, however, you should wish to have some details on this subject before then, I am ready to send you all particulars." Dr. Reclus added that he thought it wise not to keep so good a promise for himself, and ended his letter by saying that perhaps his colleagues would stop making lumbar injections, until a safe method had at last been described. Dr. Reclus's letter could not remain unchallenged, and Dr. Tuffier, who is at the head of those who use these injections in France, wrote a letter which appeared in the following number of the *Presse Medicale*.

In it he said he did not wish to answer the criticisms made against his technique, but to indicate on what ground the debate should take place. The use of cocain as indicated by Corning and Bier is dangerous. He did not find it necessary to gather together 1300 observations, the first six had sufficed. His enthusiasm would have been sufficiently calmed by the description of the technique used and of the accident which happened to the author of the process when it was tried upon himself. Dr. Tuffier adds that his own technique does not show such imperfections. His method is sufficiently simple to have obtained the favor of his colleagues in all lands, and physicians and accoucheurs have adopted it. Every day a hundred of these injections are made, and Dr. Tuffier is convinced that they are harmless. If certain surgeons wish to perform rash operations, he can in no wise be held responsible for their failures or their scorn, but, for those who have followed out his method in all its details, he begs of them to publish their complete statistics, for which he will hold himself responsible.

Intrarachidian injections of cocain as a therapeutic agent have been tried recently by Dr. Achard, who has injected as much as 2 centigrams into the spinal column in cases of sciatica. Professor Marie, one of Charcot's best known pupils, has been trying it recently, but in smaller doses. In one case, where a man was suffering from sciatica, he injected 5 milligrams of cocain, and there was a noticeable improvement very soon after, the man being able to get up and walk about without any appreciable pain.

Congress of Neurologists.

The next congress of neurologists will be held in August, at Limoges, under the direction of Dr. Ballet, of Paris. Reports will be read on the following subjects: "Pathologic Physiology of Muscular Tonicity and its Causes;" "Modifications of Reflexes and of Contracture in Lesions of the Spinal Cord;" "Acute Delirium in its Clinical, Pathologic and Bacteriologic Aspects."

Sanatoria for Consumptive Workmen.

There exist in Germany forty-nine sanatoria for workmen suffering from consumption, but none had been founded in Alsace-Lorraine, until the president of Lorraine, the baron of Hammerstein, recently inaugurated one of these institutions at Alberschwiller. It will be followed by the opening of others. This establishment, founded by private subscriptions, is very well conceived, can receive about sixty workmen, and is furnished with electric lights and sterilizers of the latest pattern.

Blood in Pneumonia.

Dr. Prochaska, of Zurich, has been making some researches recently on the blood in pneumonia, and found the pneumococcus in all cases examined. He says the reason why so many have failed to find any is that not enough blood was examined. A fact which struck him was that in several cases the pneumococcus did not cultivate for twenty-four hours in bouillon. No other microbes were found.

Foreign Body in Trachea.

At a recent meeting of the Academy of Medicine, Dr. Piechaud, of Bordeaux, described a most interesting method he followed out in the extraction of a foreign body from the trachea in a child 3 years old. He had swallowed a nail two months before, and the latter had got fixed in the left bronchial tube on a level with the hilum, as was shown by radiography. Slow tracheotomy was performed, with narcosis, and a catheter made of soft iron was slowly pushed down the trachea and connected with a strong electromagnet. After six attempts, the foreign body was removed and the canula was suppressed two days after. The child made a good recovery.

Vermicular Oxyures in the Appendix.

At this same meeting Dr. Moty spoke of the frequency with which vermicular oxyures are found in the appendix, when removed for appendicitis. It should be noted, however, that to be able to discover them, it is necessary to open up the appendix immediately after the operation, without washing it, as in this way one can examine the parasites alive and moving about. Cold water kills and deforms them almost immediately. In three cases out of five operated on recently for severe forms of appendicitis, they seemed to be the only cause. It might therefore be said that parasiticide cathartics form the best method of treatment in such cases, and that one should intervene surgically only when one is obliged to.

Pregnancy in Smallpox.

Dr. Roger, who has charge of the smallpox service at Aubervilliers, has had occasion to treat eleven pregnant women who were delivered in his service. The children seemed to be perfectly well when born, but on taking their temperature, it was found below normal. In some cases it went down to 31, 30, and even 28 C. Three children died four, six, and eleven days after birth, having as the only symptom hypothermia and jaundice. Another showed signs of an eruption like that in scarlet fever. In the seven other cases the evolution of the disease was more complete. The elements of smallpox were seen. The temperature went up generally before the appearance of the eruption. Then four or five papules were formed, which were filled with a small quantity of turbid liquid; they dried up very fast. Death took place two or three days later. Only one child lived. Dr. Roger remarked that the symptoms observed were akin to those in rabbits when inoculated with the disease.

Correspondence.

Adhesive Rubber Dam.

CHICAGO, May 6, 1901.

To the Editor:—Dr. J. B. Murphy, in THE JOURNAL for May 4, presents an article entitled "Adhesive Rubber Dam for the Prevention of Possible Infection at the Site of Operation," in which he recommends a device invented by me, i. e., the rubber dam for protection of the skin around the field of operation. Dr. Murphy states that he has used it with gratifying results at Mercy Hospital. Since "imitation is the sincerest kind of flattery," I am accordingly highly pleased to see commendation of my method emanate from an authority so favorably known to the profession. I was somewhat surprised, however, not to find any mention of my work on this subject. After a careful perusal of Dr. Murphy's paper I therefore could but conclude that the Doctor, though he is undoubtedly a diligent reader of current medical literature, is ignorant of my work. The following few lines will give a short resumé of the memoirs I have had published in regard to protection of the skin during operation, by means of an adhesive, thin rubber dam, and reference to which may also be found in Reed's "Text-book of Gynecology" *(N. Y., 1901, p. 102)*: "F. B. Turck covers the abdominal wall with a sheet of rubber dam," etc.

The first preliminary report on my method of protecting the field of operation appeared as the result of extensive experimental work, in THE JOURNAL, June 9, 1900. The following are quotations from this article: "The indications are therefore: 1, to prevent, as far as possible infection from the skin and contact of the skin with the hands, instruments, sponges, etc.: 2, to protect the skin from becoming contaminated by pus or visceral contents. To meet these indications I have devised an improved laparotomy sheet, made of thin rubber dam which is fitted closely to the body and is illustrated by the accompanying cut. (Fig. 1.)" "The former (rubber sheet) is so arranged as to fit closely and does not interfere with the field of operation." The article was entitled: "Improved Methods and Details in the Care of Patients During Surgical Operations," and was profusely illustrated.

The second memoir, in which I gave a lengthy and detailed résumé of the work done by others and myself, on the subject of infection of operative wound from the surrounding skin and laparotomy sheets, was presented to the Thirteenth International Medical Congress, Paris, in August, 1900, and appeared in the *N. Y. Medical Record* of August 11, 1900. In this paper a detailed description of my laparotomy was found, from which the following is quoted: "This (laparotomy sheet) is made in different sizes, each with an opening which may be placed directly over the site of incision or it can be left to be opened by the surgeon as an artificial skin."

The third paper from my pen, describing my improved laparotomy sheet, appeared in the *Philadelphia Medical Journal* of March 30, 1901, p. 622, and reviewed the experimental and clinical observations of others and myself in regard to wound infection during operation and shock: "I have shown" (continues the article, on page 623) "by my own experiments and those of other observers, that the skin of the abdomen is a source of infection. It was shown that these germs can not be removed even by our most painstaking aseptic procedures. That the microorganisms found are in a measure 'nonpathogenic,' but if the vitality is reduced by shock or otherwise, these so-called non-pathogenic microorganisms may produce infection and death. To prevent these germs from gaining access to or infecting the abdominal cavity, I described a method of covering the abdomen with an 'artificial skin' or thin rubber dam sheet that is made to adhere fast to the skin; hence, I designated the method by the appropriate name 'artificial skin.' *(New York Medical Record,* Aug. 11, 1900, p. 208). I have also had rubber sheets made, with an opening already formed, to fit closely to the body and securely fastened so that the same sheet may be used over again. For practical purposes, the artificial skin which I previously described is more simple, as all that is necessary is to take a piece of this rubber dam and cement it to the skin like a surgeon's adhesive plaster. I have used various *cements; simple bisulphide* of carbon will dissolve the rubber and cause a sheet of rubber to adhere to the skin. I have had several special cements made for the purpose. A thin rubber cement is useful.: I have tried a cement made of galvanum. Rubber and balsam, when sterilized, forms a firm *adhesive sterile plaster to fix the rubber* to the skin. It can be easily removed. When the artificial skin is thus cemented, over the skin of the abdomen or any other operation area, it forms a perfect protection from infection and lessens the danger of shock that may result partly from the evaporation of the wet skin." Yours truly, Fenton B. Turck, M.D.

Priority in Forward Dislocation of Mobilized Urethra.

New York City, May 1, 1901.

To the Editor:—Dr. C. H. Mayo's admirable article in The Journal of April 27, contains a most practical and concise review of the several operative methods of dealing with hypospadias. The Doctor gives me full credit for my new method of forward dislocation of the mobilized urethra, but he also lays himself liable to misinterpretations when he says that "Professor von Hacker devised the new method shortly afterward."

With no desire to appear as criticising Dr. Mayo's brilliant work, I avail myself of it to clear up any possible misunderstanding, and incidentally emphasize the greater sense of justice we, in America, manifest toward each other.

Literature clearly shows that I reported my first operation Oct. 4, 1897, (see Reports of the *New York Deutsche Medicinische Gesellschaft* for that date). My first article describing my operation was published in the *New Yorker Medicinische Wochenschrift* for November, 1897. My second article on the subject (illustrated), containing some minor modifications, was printed in the *New York Medical Journal*, Jan. 29, 1898. Von Hacker described my operation, as his own of course, nearly, one year after he had learned of my first publication and six months after he had received from me a reprint of my second article. That he could, and did, completely ignore the published work of a mere humble American surgeon like me is comprehensible, for there are many in Europe who "perfume" their intellect by not grasping that anything good can come from our far-off land. And when they borrow it, hide, bone, and hoofs, then they have discovered it. It seems singular, however, that no heed was paid to my operation in this country until it came back trade-marked as "made in Europe," with von Hacker's name.

That my reclamations in Germany did not bear much fruit is evident by the fact that the leading German text-books on surgery show that they were kept ignorant of the true state of affairs. One of the authors, however, wrote me that he will remedy the error. Zuckerkandl, for instance, calls the method the "Hacker-Beck," and Tillmanns brings von Hacker to the foreground, showing at the same time four illustrations of Bardenheuer, who—admirabile dictu—devised the modification of using a trocar to tunnel the glans, instead of a bistoury, as advised by me. Koenig says that "Beck advised the method first," but creates the impression that von Hacker had suggested it at about the same time. But this is not all.

How American inventions are sometimes treated abroad is best illustrated by the "*Jahresbericht* ueber die Fortschritte auf dem Gebiete der Chirurgie," edited by Hildebrand (page 901, 1899), where Hj. von Bonsdorff exploits this most miraculous logic: "Von Hacker and Bardenheuer invented the method of forward dislocation of the mobilized urethra, etc., at the same time Beck of New York, used a similar method. But his being published in the *New York Medical Journal*, which is *nearly inaccessible to us*, we must assume that von Hacker, Bardenheuer, and Beck (Beck always figures as a kind of tolerated appendix) invented the same method at the same time. Similar remarks were found in the *Centralblatt f. Chirurgie*, by a Russian surgeon, which, however, were refuted in this country by Fowler.

It has touched me deeply to see that my American confrères stood up against these careless statements, Fowler, Valentine, and Parham taking energetic steps, for which I take this opportunity of expressing my gratitude. That their efforts had a retrograde effect became evident by the fact that Marwedel, of Czerny's clinic at Heidelberg, followed their examples by giving an exhaustive description of my method (Ueber die Beck 'sche Methode der Hypospadie-operation) in the same *Klinische Beitraege* where von Hacker made his remarkable publication. I am indebted to the author for giving me fullest credit for my method, and especially for setting down the facts about von Hacker, as they are evident from literature. From this essay it may also be seen that Czerny had performed my operation a whole month before von Hacker did it, according to the latter's own statement. If von Hacker's principles as to the rights of an inventor would be introduced in general, namely that the first imitator of the invention should be credited with it, then there would be no reason, why my method should not be properly called Czerny's or Marwedel's. Yours very respectfully, Carl Beck, M.D.

Antiseptic Treatment of Smallpox.

Detroit, Mich, May 2, 1901.

To the Editor:—In The Journal of March 16, page 771, there is an abstract of a paper of mine. If the abstract is allowed to stand without further comment it will injure me in my claim to priority in the antiseptic treatment of smallpox. By it the medical profession might infer that I had only suggested a "local (antiseptic) method treatment," whereas the whole burthen of my endeavor as to treatment since January 14, 1895, at which time I delivered an original paper on the pathology and antiseptic treatment of smallpox, before the Detroit Medical and Library Association—has been to induce medical men to evolve a complete and perfect treatment in which antiseptic baths should be the principal and effective part employed in the management of variola.

On the same date, 1895, I originally announced the principle that the true smallpox only extends so far as the vesicular stage, and that the vesicles are simply infection-atria through which pus germs and saprophytes are intromitted to the structure of the true skin and to the general system, thereby causing septicemia and death. I then affirmed that asepsis and antisepsis of the epidermis, especially by means of antiseptic baths, would avert such calamitous results. It is my opinion that I was the first to announce this theory.

I assumed charge of the smallpox hospital at Detroit on Jan. 22, 1895, with the intention of demonstrating my theory as to the pathology and treatment of smallpox, but I found myself grievously handicapped by the assaults of the whole newspaper press in the city, and by fierce political rancor in which I was innocently but unfortunately involved. Finally I retired from my hospital position on March 10, having beeen legislated out of office by an act of the state legislature.

While in the hospital the demonstration of my proposed antiseptic treatment by baths was obviously impossible. I was compelled to limit myself to the treatment of a patient by only applying antiseptics—in the fluid form—to the hands and forearms, and subsequently wrapping them with borated cotton, all the particulars of which have been repeatedly published. The result of this experiment confirmed the truth of my theory.

On the subject of my theory and its practical demonstration, I presented a paper to the Michigan State Medical Society in 1896, and it was published in the *Medical Record*, July 18, of the same year.

A re-affirmation of my theory of the pathology and the antiseptic treatment of smallpox, together with an account of my practical work, was read before the Detroit Medical Society on November 7, 1900, and published in *The Physician and Surgeon* for January, 1901, from which your abstract was made.

It is clear to me that my avowal of my theory and of the exemplification of it, in 1895 and in 1896—and later—gives me priority as elucidating the true pathology of smallpox, and makes me the original author of what may aptly be termed the antiseptic treatment of the disease. Yours very respectfully, Alonzo Bryan, M.D.

Association News.

The Reorganization of the American Medical Association.

At the last meeting of the British Medical Association, an active propaganda was inaugurated looking to a change in the constitution of that body. Many of the members have become dissatisfied with the governing body which is known as the Council, claiming that the latter has lost sympathy with the rank and file of the association. This was brought to a focus last summer by a proposal to increase the powers of the Council. This failed, and was followed by the appointment of a committee to consider the best means of reorganizing. The association is said to number nearly 17,000 members, but only about two-thirds of these are members of branches. Both those who favored the resolutions conferring greater powers upon the Council and those who opposed them felt that the general meetings of the association were not suitably organized for an expression of the views of the great body of members. In the last conclusion of the committee, the majority of the members of the American Medical Association will heartily agree. The attempt to govern this great body along the primitive lines of a town meeting has utterly failed. The failure of a parliamentary body composed of from one thousand to two thousand is apparent at every session of the American Medical Association in which business matters are discussed. Upon this point our English brothers seem to be practically agreed. In the report of the British association's committee it is recommended that a special body be created from the various branches of the association, who shall attend the annual meetings and have their expenses paid. They shall vote upon all matters of a medico-ethical sort, and consider all business excepting that of finance and the editorial management of the journal. The present Council is to be continued, but the number of *ex-officio* members is to be diminished; it is to act as a sort of upper house, the delegates to be created under the new rule acting as a lower house. The Council is to have the power of referendum. The voting power of the delegates is to be regulated by the strength of the division which they represent. The American Medical Association is sadly in need of a change in the organic law relating to the formation of the governing body. The method of representation has remained the same since the organization of the Association, at a time when the number that commonly met in its annual gatherings was not larger than one of our smaller State medical societies. At present, those state, district and county societies that are in affiliation with the Association are entitled to send one delegate for each ten members upon the rolls. It so happens that the multiplication of special societies, particularly in cities, has resulted in the same man joining several; consequently his name is counted as an individual in each separate organization. The number of delegates to which Chicago, with her numerous special societies, would be entitled would make nearly one-half the local profession who are members of local societies delegates to any meeting if they take out certificates. As a matter of fact, a large number attend without the necessary certificate, as it is almost meaningless. Should they desire to take part in the proceedings and vote on the floor of the convention, there is no difficulty in their doing so, and many do without knowing the rule that those who are delegates alone are entitled to vote. A calling of the roll is such a hopeless task that it has only been attempted once or twice in the last ten years. A method of conducting business in this way would seem ludicrous if it was proposed to initiate it, but long custom has permitted the Association to drift along without any special direction. Fortunately the drift has been on correct lines, and the necessity of change has not been forced to the front. Each year, however, the Association feels more and more the cumbersome methods which are now used, and the time is ripe for the discussion of important changes. A few years ago what was known as a business committee was organized, composed of the executive members of each section. This has disposed of much business that formerly came before the general body. The work of the committee has grown in importance, and it is found to be composed for the most part of men who are interested in the scientific work of the Association, it being composed of ex-chairmen of the sections and not those interested in the politico-ethical subjects which have formed the principal topics of debate in the general session for many years past. The present delegate system should be abandoned, as it is cumbersome and useless. Its place should be taken by a smaller body, organized somewhat upon the lines of the new committee which is to be formed in the British Medical Association. Such a smaller governing body would represent hte body of the profession. It might be composed of a single delegate from each state, his voting power being based upon the number of members residing in the state. This would create a small, compact body that would be representative of the profession. It could meet at the times of the general session and matters could be referred to it, and it could initiate legislation which was thought to be for the good of the entire Association. It need not interfere with the present committee of the sections, which would still have jurisdiction over the conduct of the meetings and scientific work, and it need not interfere in any way with the board of trustees of The Journal, who have charge of the finances and the editorial management of the publication. Such a governing body combined with the referendum would unify the Association, reduce its constitution and practice to a consistent basis, and further the interests of the Association.—*Medicine*, May, 1901.

Election of Delegates.

Delegates have been recently elected to the American Medical Association as follows: By the Douglas County (Wis.) Medical Society, Dr. John Specht, West Superior, and Dr. L. A. Potter, South Superior; by the Franklin County (Pa.) Medical Society, Drs. A. H. Strickler, Waynesboro; Jos. Frantz, Jr., Waynesboro; A. W. Thrush, Greenvillage; J. W. Croft, Waynesboro; and Jas. H. Montgomery, Chambersburg; by the Marion County (Ohio) Medical Society, Drs. O. W. Weeks, H. L. Uhler and A. M. Crane.

Section on Laryngology and Otology.

Address of Chairman. John N. Mackenzie, Baltimore, Md.

Remarks on the Treatment of Laryngeal Tuberculosis. P. S. Donnellan, Philadelphia.

The Treatment of Laryngitis. O. T. Freer, Chicago.

Edematous Laryngitis with Report of Case. J. S. Gibb, Philadelphia.

Types of Membranous Pharyngitis. W. E. Casselberry, Chicago.

Total Extirpation of Thyroid Gland. G. F. Cott, Buffalo, N. Y.

Foreign Bodies in the Bronchi. F. J. Quinlan, New York City.

The Manifestations of Luetic Disease in the Upper Respiratory Passages and Ear. W. Scheppegrell, New Orleans, La.

Title to be Announced. J. O. Roe, Rochester, N. Y.

Title to be Announced. Robert Levy, Denver, Colo.

Observation on Intranasal Contract and its Consequences. J. E. Schadle, St. Paul, Minn.

The Relation of the Middle Turbinate Body to Chronic Nasal Diseases. C. S. Baker, Bay City, Mich.

The Pathology of Inflammation of the Posterior Part of the Nasal Septum. J. L. Goodale, Boston.

Asthma as a Result of Nasal Conditions: Treatment, etc. J. H. Farrell, Chicago.

The Effect which the So-called "Catarrhal" Disease of the Nose and Throat may Have upon the General Health. C. M. Cobb, Lynn, Mass.

Empyema of the Frontal Sinus. E. Fletcher Ingals, Chicago.

Diseases of Accessory Sinuses. E. L. Shurly, Detroit, Mich.

Anomalies of the Frontal Sinus and their Bearing on Chronic Sinusitis. Redmond W. Payne, San Francisco, Cal.

Carcinoma of the Nasopharynx. Chevalier Jackson, Pittsburg, Pa.

Sarcoma of Nasal Passages, with Report of Case. Dunbar Roy, Atlanta, Ga.

Case of Epithelioma of Upper Respiratory Tract. S. A. Oren, Lanark, Ill.

The [illegible] J. Homer Coulter, Chicago.

An [illegible] ffecting the Faucial Tonsil. George L. Richar[illegible]

Tra[illegible] the Uvula. H. Seymour Oppenheimer, New York City.

The Pathology of Adenoids in the Adult. A. T. Mitchell, Vicksburg, Miss.

The Diagnosis and Treatment of Mastoiditis. E. B. Dench, New York City.

Mastoiditis after Subsidence and without Recurrence of Tympanic Disease. Hiram Woods, J[illegible]

Experiments on Fresh [illegible] Suppurative Otitis Media and Mastoiditis. F[illegible] Minn.

Gelles's Test. Norval [illegible]

Report of a Case of Suppuration of the Parotid Gland with Suppuration of External Auditory Canal. F. A. Packard, Philadelphia.

Report of Case of Unusual and Interesting Tertiary Manifestations. G. Hudson Makuen, Philadelphia.

Dangerous Hemorrhage after the Removal of Enlarged Tonsils and Adenoids, with Report of a Case. A. C. Getchell, Worcester, Mass.

The Rationale and Technic of Pneumatic Aural Massage. B. Alex. Randall, Philadelphia.

Title to be Announced. C. W. Richardson, Washington, D. C.

Section on Pathology and Bacteriology.

Tuesday, June 4—2 p. m.

Giant Cell Embolism of Pulmonary Capillaries. Alfred S. Warthin, Ann Arbor, Mich.

Effect of Direct, [illegible] s and X-rays on Bacteria. F. Robe [illegible]

Demonstration [illegible] omicrographs of Uretero-intestinal [illegible] hicago.

Primary Sarcom [illegible] William Travis Howard, Jr., Cleveland, Ohio.

Demonstration of the Van Gehuchten-Nelis Histologic Reaction for Hydrophobia, and Remarks on Hydrophobia in Ohio. A. P. Ohlmacher, Gallipolis, Ohio.

A Case of Complete Agenesia of the Central Visual System. Wm. G. Spiller, Philadelphia.

Carcinoma of the Lung. E. R. Le Count, Chicago.

The Influence of Structure and Locality on Pathologic Processes. J. S. Foote, Omaha, Neb.

Wednesday, June 5—9 a. m.

DISCUSSION ON THE ROLE OF CERTAIN OF THE NONGRANULAR AND GRANULAR SOMATIC CELLS IN INFECTION.

Technics. The Origin, Fate and Significance of these Morphologic Elements. H. F. Harris, Atlanta, Ga.

The Plasma Cells in Acute and Chronic Infection. W. T. Councilman, Boston.

The Endothelial Cells in Acute and Chronic Infection. E. R. Le Count, Chicago.

The Eosinophilic Cells in Acute and Chronic Infection. Maximilian Herzog, Chicago.

The Mast Cells in Acute and Chronic Infection. Herbert U. Williams, Buffalo, N. Y.

Isolation of Bacillus Typhosus from Unusual and Interesting Localizations. O. McDaniel, Minneapolis, Minn.

Notes on the Bacteriology and Morbid Histology of Cerebrosinal Meningitis. L. B. Wilson, Minneapolis, Minn.

Wednesday, June 5—2 p. m.

Report on Cultures from Two Cases of Dysentery. F. F. Westbrook, Minneapolis, Minn.

A Study of a Fetal Stomach with Special Reference to the Origin of Acid-Secreting Cells. W. A. Evans, Chicago.

Report of a Case of Hypernephroma of the Kidney. W. A. Evans and Wm. Becker, Chicago.

Some Studies of Venoms and Antivenin. Joseph McFarland, Philadelphia.

Some Unusual Adenocarcinomas of the Breast. J. Clark Stewart, [illegible]

[illegible] bnormality of the Bile-Ducts. J. Clark Stewart, [illegible]

[illegible] of Primary Carcinoma of the Appendix, and a Case of Lymphosarcoma of the intestine, with a Discussion of the Etiology of the Latter. S. M. White, [illegible]

On the Etiology of Carcinoma. G. [illegible]

On the Growth of Epithelium. Le [illegible]

On the Nature and Significance of [illegible] of Red Corpuscles. Alfred Stengel, C. Y. [illegible] Pepper, Philadelphia.

Thursday, June 6—9 a. m.

Study of an Epidemic Among Guinea-pigs in the Laboratory. V. C. Vaughan, Ann Arbor, Mich., for Louis M. Gelston.

The Influence of Boric Acid and Borax on Milk Bacteria. V. C. Vaughan, Ann Arbor, Mich., for William H. Veenboor.

[illegible] e on Milk Bacteria. V. C. Vaughan, Ar [illegible] Hood.

[illegible] man Lung; a General Consideration of [illegible] Philadelphia.

Section on Cutaneous Medicine and Surgery.

Tuesday, June 4—2:30 p. m.

Address of Chairman: Ancient and Modern Conception of Syphilis. William L. Baum, Chicago

[illegible] rual *Function to Tertian Diseases of* the [illegible], New York City.

[illegible] of Cutaneous Cancer with Special Re [illegible] Nature. M. L. Heidingsfeld, Cincinnati, Ohio.

The Increasing Prevalence of Contagious Skin Diseases. Henry W. Stelwagon, Philadelphia.

Syphilis and its Relations to Blastomycetic Dermatitis. Henry G. Anthony, Chicago.

Adenoma Sebaceum of the Non-symmetrical Type of Darier. William S. Gottheil, New York City.

Notes on a Case of Keratosis Follicularis (Psorospermosis). Joseph Zeisler, Chicago.

Wednesday, June 5—2:30 p. m.

Lantern-Slide Demonstration on Skin Cancer. M. L. Heidingsfeld, Cincinnati, Ohio.

Lantern-Slide Exhibition Showing the Clinical, Pathological, and [illegible] Features of eleven [illegible] Skin. [illegible] Hyde and Frank [illegible]

[illegible] Demonstration of th [illegible] William Thomas Cor [illegible]

[illegible] Case: Lupus [illegible] Air. A Case of Leprosy in a Man [illegible] Been Outside of [illegible]

Epidermolysis [illegible] Louis E. Schmidt, Chicago.

Report of a Ca [illegible] Long Duration and Beginning in Early Manhood. [illegible] Kansas City, Mo.

Notes on Recent Cases of Extragenital Chancres. L. Duncan Bulkley, New York City.

Thursday, June 6—2:30 p. m.

Squamous Erythroderma. Augustus Ravogli, Cincinnati, Ohio.

Phototherapy in Cutaneous Medicine. A Preliminary Communication. William S. Gottheil, New York City.

Lichen Hypertrophicus. David Lieberthal, Chicago.

Feigned [illegible] Davis, Kansas City, Mo.

Clinical [illegible] Dermatitis as Observed in Three Cases [illegible] ayton, Indianapolis, Ind.

New Members.

The following is a list of new members for April:

ARKANSAS.

Stark, L. R., Little Rock.
Dibrell, E. R., Little Rock.
Richter, Arthur J., Pine Bluff.

CALIFORNIA.

LeDoux, Jos. Alphonse, Los Angeles.
Church, B. F., Los Angeles.

CONNECTICUT.

Park, Chas. Edwin, New Haven.
Miles, Henry S., Bridgeport.

GEORGIA.

Smith, Jefferson Gilbert, McDonough.
McAfee, John C., Macon.

ILLINOIS.

Newcomb, W. K., Champaign.
Wells, Harry Gideon, Chicago.
Rideout, Wm. J., Freeport.
Williamson, Geo. L., Homer.
Ludewig, Wm. H., Rock Island.
Grinker, Julius, Chicago.
Sims, Jas. M., Crab Orchard.
Jaquith, Walter A., Chicago.
Beam, Wm. O., Moline.
Fair, Jno. F., Freeport.
Beal, Albert M., Moline.
Wood, Chas. M., Chicago.
Morton, John B., Ridgefarm.
Miller, G. E., Hanover.
Hutchins, Linda Krape, Orangeville.
Strohecker, Samuel Martin, Chicago.

INDIANA.

Etta, Charles, Summitville.
Furniss, H. W., Indianapolis.
Rietz, P. C., Evansville.
Winans, Henry M., Muncie.
Newman, Miles N., Ossian.
Wilson, Hubert W., Michigan City.

IOWA.

Cole, J. F., Oelwein.
[illegible] ton.
Wertz, J. B., Marion.
Sartell, Erasmus N., Harper's Ferry.
Walker, H. L., Cedar Rapids.
Grimwood, Walter H., Ft. Madison.
Braunwarth, Emma L., Muscatine.

KANSAS.

Lowdermilk, R. Claude, Galena.

KENTUCKY.

Garland, Sherrill J., Louisville.
Johnson, Eugene Yates, Louisville.
Moore, Geo. W., Ashland.

MAINE.

Lincoln, Jas. Otis, Bath.

MARYLAND.

McCrae, Thos., Baltimore.
Barrett, H. G., Baltimore.
Cullen, Thos. S., Baltimore.

MASSACHUSETTS.

Wheeler, Emma H., New Bedford.
Comey, Perley P., Worcester.
Goodwin, J. J., Clinton.
Underwood, Geo. B., Gardner.
Parker, Ralph N., Lowell.

MICHIGAN.

Dockery, M. F., Sagola.
Dewar, John B., Cedar Springs.
Tutton, Henry V., Benton Harbor.
Willis, Geo. H., New Troy.
Sowers, Chas. Newton, Benton Harbor.

MINNESOTA.

Gillett, Arthur I., St. Paul.
Kelly, B. W., Aitkin.
Lewis, J. M., Minneapolis.
Dampier, C. E., Crookston.
Bettingen, J. W., St. Paul.
Bacon, Russell S., Montevideo.
Wilson, Wm. F., Lake City.
Heise, W. F. C., Winona.
Coulen, B. M. J., Owatonna.
Cool, Daniel M., Faribault.

MISSOURI.

Stauffer, Wm. H., St. Louis.
Zwart, B. H., Kansas City.
Stapleton, Fielding P., Albany.
Bowline, *Benj. F., Bagnell.*
Deutsch, Wm. S., St. Louis.

MISSISSIPPI.

Martin, Edw. Hamilton, Clarksdale.
McElroy, Jas. B., Stovall.

NEBRASKA.

Peterson, Alfred O., Omaha.
Wood, Ruth M., Lincoln.
Mattice, Richard I., Omaha.

NEW YORK.

Becker, Edouard Waterbury, Troy.
Jones, David Hughes, New York City.
Otto, Jacob S., Buffalo.
Schminke, *Jno. C., New York* City.
Murphy, John, New York City.
Metzger, J. I., New York City.
Carlisle, Robt. Jas., New York City.
Ross, *John*, New York City.
Jelliffe, Smith Ely, New York *City.*
Jarecky, Herman, New York City
Probasco, E. B., Glens Falls.
Wells, Jos. E., Brooklyn.
Livingston, Alf. T., Jamestown.

NEW MEXICO.

Crossen, Francis, Albuquerque.

NEW JERSEY.

Richardson, Emma Miller, Camden.

OHIO.

Obrist, J. W., Beaver.
MacMillan, Wade, Cincinnati.
Cadawallader, J. C., Cincinnati.
Phillips, Jas. McIlvaine, Columbus.
Husted, Eugene G., Bearnsville.
Bradford, Wm. N., Cambridge.
Brown, Mark A., *Cincinnati.*
Gillespie, Paul, Wyoming.

OKLAHOMA.

Holbrook, Ralph W., Perkins.

TENNESSEE.

Kane, Elizabeth C., Memphis.
Moore, Alfred, Memphis.
Burke, Robert A., Dyersburg.

TEXAS.

Hathcock, Alf. L., Palestine.
Ferguson, Aug. D., Emmet.
Stephens, Ernest L., Ft. Worth.
Alexander, C. M., Coleman.
Simpson, Chas. W., Waxahachie.

PENNSYLVANIA.

Bonebreak, John S., Martinsburg.
Clark, John, Smethport.
Pfaltzgraff, S. K., York.
Bishop, Frederick J., Scranton.
Ravenel, Mazÿck Porcher, *Phila.*
Knipe, Reinoehl, Norristown.
Morris, A. F. B., Pittsburg.

RHODE ISLAND.

Peckham, Frank E., Providence.

VIRGINIA.

Plecker, W. A., Hampton.
Feild, Edw. Evarard, Norfolk.
Old, H., Norfolk.
Jones, Herman Ewart, Roanoke.

VERMONT.

Twitchell, Marshall C., Burlington.

WASHINGTON.

Loe, A. O., Seattle.
Blalock, Nelson G., Walla Walla.

WISCONSIN.

O'Connor, D. J., Green Bay.
Hewitt, M. R., Milwaukee.
Cutler, John C., Verona.

Report of Committee on Transportation.

The Committee on Transportation reports that the following rates and time limits have been granted to the American Medical Association, the Military Surgeons of the United States, and the American Academy of Medicine, which meet between May 30 and June 7.

The Western Passenger Association has granted throughout its territory, including Colorado and Wyoming, a one fare plus $2 for the round trip from all points beyond 200 miles of St. Paul; from all points within that radius a fare and a third for the round trip will apply. Tickets will be on sale from points 200 miles and over from St. Paul, May 27 to June 3, inclusive; from points within 200 miles, tickets will be on sale from same date to June 4 inclusive. Returning tickets will be honored from May 29 to June 15, with extension as herein explained, tickets both ways to be used for continuous passage only, in either direction. Form of ticket will be of iron-clad signature form, providing punch description of passenger. Return ticket is to be executed by joint agent at St. Paul upon payment of a 50-cent fee to be used at all points from which the local one-way rate to St. Paul is more than $6. From points within that radius open form of local excursion ticket is to be used. Exchange orders require execution by joint agent. Extension, return limit of ticket sold at points from which local one-fare rate to St. Paul is more than $6, may be extended to leave St. Paul up to and including July 15, 1901, by depositing tickets with joint agent not earlier than May 29 nor later than June 15, and upon payment of execution fee at the time of deposit, all other conditions to remain unchanged. The Committee is trying to secure a stop-off privilege at Milwaukee, June 11-14, for the Neurological Society.

The Central Passenger Association so far has granted a rate of one fare and a third on the certificate plan, but have not decided on date of sale or time limit of ticket. Your Committee is urging the adoption of the time limit granted by the Western Association and a Milwaukee stop-over. Further action in this association will be published in The Journal.

The Southeastern Passenger Association, up to this date, May 4, has come to no decision on the question of rates.

The Trunk Lines Association has granted a rate of one and a third fare on the certificate plan, out-going tickets to be sold May 25 to June 5, inclusive. Tickets must be deposited with railroad special agents at St. Paul promptly on arrival, together with the certificate secured when ticket is purchased; return ticket will be issued not later than June 11 on presentation of certificate duly signed at the meeting by the local transportation committee and special agent of the company upon payment of one-third the regular first-class fare; certificates or return tickets are not transferable; railroad certificate obtained at the time out-going ticket is purchased must invariably be presented for reduction in rate on return ticket. The Committee is urging the adoption by the Trunk Lines Association of the time limit agreed to by the Western Passenger Association. We are also urging the stop-off privilege at Milwaukee June 11-14 and the Trunk Lines Association has submitted this question for final decision to Mr. Eben E. MacLeod, chairman of the Western Passenger Association, for final decision.

The New England Passenger Association has granted a fare and a third for the round trip, certificate plan. Tickets will be on sale May 25 to June 5 inclusive; tickets returning sold on presentation of certificate in proper form not later than June 11; continuous passage over same route is required in all cases. Your Committee is urging upon them the importance and necessity in the interest of the St. Paul Meeting the adoption of the time limit granted by the Western Passenger Association. All rates quoted apply jointly to the meetings of the Military Surgeons of the United States, the American Academy of Medicine and the American Medical Association which are in meeting May 29 to June 7. The Committee hopes to secure the Milwaukee stop-off concession applied for. The Committee will report in each subsequent publication of The Journal.

H. L. E. Johnson, Chairman, Washington, D.C.;
Miles F. Porter, Fort Wayne, Ind.;
I. N. Love, New York City,

Deaths and Obituaries.

Samuel G. Dorr, M.D., of Buffalo, N. Y., 1875, died at his home in that city, from angina pectoris, April 28, aged 60. He served as a recruiting agent in Livingston County during the Civil War, was prominent in politics for twenty years, and appointed postmaster of Buffalo in 1899. At one time he was an active practitioner in the eastern section.

William Wallace Welch, M.D., Rush Medical College, Chicago, 1846, died from paralysis, April 29, at the Soldiers' Home, Quincy, aged 79. During the Civil War he was surgeon of the 53d Illinois Volunteers, and later Chief of Staff of the Surgeons of the Army of the West. After the war he settled in La Salle and practiced there and in Galesburg.

Horacio Guzman, M.D., University of Pennsylvania, Philadelphia, formerly minister from Nicaragua to the United States, later secretary and acting director of the Bureau of American Republics, an expert Spanish-English and English-Spanish translator, died suddenly in Washington, D.C., April 23, aged about 50 years.

James A. Summerville, M.D., Faculty of Medicine of Queen's University and Royal College of Physicians and Surgeons, Kingston, Ont., 1866, a founder of the Menominee River Hospital, Marinette, Wis., died from cerebral meningitis, at the hospital, April 25, aged 60.

Howard M. Bloch, M.D., College of Physicians and Surgeons of San Francisco, 1898, who, after graduation spent eighteen months in special work at Johns Hopkins University, Baltimore, and then went to Berlin for further study and research, died recently in Berlin, after a short illness.

Percy M. Graham, M.D., Jefferson Medical College, Philadelphia, died at his residence in Philadelphia, April 23, aged 40, as a result of an injury to the head received while a student. He had been blind for fifteen years, and with the loss of sight came ill-health, which persisted until his death.

Irving C. Rosse, M.D., University of Maryland, Baltimore, 1866, of Washington, D.C., died there May 3, aged 54. He was an authority in mental diseases, a writer of repute, and surgeon of the U. S. Steamer *Corwin*, on two Polar expeditions.

Robert W. Greenleaf, M.D., Harvard University Medical School, 1885, of Boston, and a member of the American Medical Association, died suddenly at Ipswich, Mass., April 28, aged 46.

Albert Hare, M.D., College of Physicians and Surgeons, Baltimore, 1883, of McKeesport, Pa., died April 26, at Tarentum, Pa., after an illness of a year, aged 45.

George Matthias Swain, M.D., College of Physicians and Surgeons, N. Y., 1870, of Chatham, N. J., died April 26.

E. L. Gilliam, M.D., died recently at Letart, W. Va., aged 60 years.

Societies.

COMING MEETINGS.

American Medical Association, St. Paul, Minn., June 4-7.
Arkansas Medical Society, Hot Springs, May 14-16, 1901.
Medical Association of Montana, Great Falls, May 15-16, 1901.
Michigan State Medical Society, Battle Creek, May 15-16, 1901.
Iowa State Medical Society, Davenport, May 15, 1901.
Indiana State Medical Society, South Bend, May 15-17, 1901.
New Hampshire Medical Society, Concord, May 16-17, 1901.
Medical Association of Missouri, Jefferson City, May 21-23, 1901.
Illinois State Medical Society, Peoria, May 21-23, 1901.
Medical Society of North Carolina, Durham, May 21-23, 1901.
Connecticut Medical Society, Hartford, May 22-23, 1901.
North Dakota Medical Society, Fargo, May 22-23, 1901.
Kentucky State Medical Society, Louisville, May 22-24, 1901.
Medical Society of West Virginia, Grafton, May 22-24, 1901.
American Laryngological, Rhinological and Otological Society, New York City, May 23-25, 1901.
American Laryngological Association, New Haven, Conn., May 27-29, 1901.
American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.
American Gynecological Association, Chicago, May 28, 1901.

American Climatological Association, Niagara Falls, N. Y., May 30, 1901.
American Association of Military Surgeons of the United States, St. Paul, May 30, 31, June 1, 1901.
American Academy of Medicine, St. Paul, Minn., June 1-3.
National Con. State Medical Examiners and Licensing Boards, St. Paul, Minn., June 3.
Association of American Medical Colleges, St. Paul, June 3.
American Medical Editors' Association, St. Paul, June 3.
Minnesota State Medical Society, St. Paul, June 3.
American Proctological Association, St. Paul, Minn., June 4-5.
American Dermatological Association, Chicago, June 4-6.
Rhode Island Medical Society, Providence, June 6.
International Association of Railway Surgeons, Milwaukee, June 10-12.
Medical Society of Delaware, Lewes, June 11.
Oregon State Medical Society, Portland, June 11-12.
American Medico-Psychological Association, Milwaukee, Wis., June 11-14.
Maine Medical Association, Portland, June 12-14.
Massachusetts Medical Society, Boston, June 12.
Colorado State Medical Society, Denver, June 18.
American Orthopedic Association, Niagara Falls, June 18-20.
Medical Society of New Jersey, Allenhurst, June 25-27.
Wisconsin State Medical Society, Waukesha, June 26.

Geneva County (Ala.) Medical Society.—This Society met on April 3, at Geneva, and elected Dr. Alpheus B. Jernigan, Geneva, president.

Iowa State Medical Association.—The semi-centennial meeting of this Association will be held in Davenport, May 15-17. Dr. Robert E. Conniff, Sioux City, in the chair.

Medical Society of New Jersey.—The State Medical Society will hold its annual meeting at Allenhurst, June 25-27, under the presidency of Dr. John D. McGill, Jersey City.

New Hampshire Medical Society.—The one hundred and tenth annual meeting of this Society will be held in Concord, May 16 and 17, President William Thayer Smith, Hanover, in the chair.

Detroit Physicians' Association.—Under the new constitution, this Association met April 29 for its annual session, and re-elected Dr. Guy L. Kiefer, president; Dr. Henry L. Obetz, vice-president, and Dr. Walter J. Cree, secretary.

Michigan State Medical Society.—The thirty-sixth annual meeting of this Society will be held in Battle Creek, May 15 and 16, under the presidency of Dr. Philo D. Patterson, Charlotte. Headquarters will be at the Post Tavern.

Golden Belt (Kan.) Medical Society.—In addition to the announcement of election of officers in the last issue of THE JOURNAL, Dr. Edgar L. Simonton, Wamego, and Enos R. Cheney, Gypsum, were elected vice-presidents of the Society.

Detroit Medical Society.—On April 24 the election of officers of this Society took place, with the following result: Dr. Delos L. Parker, president; Dr. F. Lydston Newman, vice-president; Dr. Wadsworth Warren, treasurer, and Dr. Louis J. Goux, secretary.

Howard County (Md.) Medical Association.—At a meeting of this Society held at Ellicott City, April 23, Dr. John M. B. Rogers, Ellicott City, was elected president; Dr. W. W. L. Cissell, Highland, vice-president, and Dr. William B. Gambrill, Alberton, secretary-treasurer.

Belmont County (Ohio) Medical Association.—The bimonthly meeting of this Society was held at Bellaire, April 24. Dr. John A. Heinlein, Bridgeport, the newly-elected president, was installed, and delegates to the AMERICAN MEDICAL ASSOCIATION were elected.

Waller County (Texas) Medical Association.—The physicians of Hempstead, Texas, met April 23 and organized this Association, with the following officers: Dr. James H. Morrison, president; Dr. Thomas T. Erwin, *vice-president*; Dr. L. Lee Mahan, secretary, and Dr. Cecil W. Le Grand, treasurer.

Somerset County (N. J.) Medical Society.—The annual meeting of the Society was held at Somerville, April 25. Dr. William H. Merrell, South Branch, was elected president; Dr. Sewell O. B. Taylor, Millstone, vice-president; Dr. Aaron L. Stillwell, Somerville, secretary, and Dr. John P. Hecht, Somerville, treasurer.

Indiana State Medical Society.—The fifty-second annual session of this Society will be held in South Bend, May 15-17, under the presidency of Dr. George W. McCaskey, Fort Wayne. Dr. John A. Wyeth, New York, will deliver an address on "The Making of a Doctor," and the subject of the president's address will be "Physiology the Basis of Clinical Medicine: A Plea for Scientific Methods."

Illinois State Medical Society.—The fiftieth anniversary of this Society will be held in Peoria, May 21 to 23, under the presidency of Dr. George N. Kreider. The local committee and the Peoria City Medical Society are making extensive preparations for the entertainment of visitors.

Macoupin County (Ill.) Medical Association.—The semi-annual convention of this Society was held at Shipman, last week. Dr. John R. Ash, Brighton, was elected president; Dr. William L. Penniman, Shipman, vice-president, and Dr. J. Palmer Matthews, Carlinville, secretary. The next meeting will be held in Greenfield, in October.

Berkshire District (Mass.) Medical Society.—The annual meeting of this Society was held at Pittsfield, April 25, at *which Dr. Morgan L. Woodruff* was elected president; Dr. Stephen C. Burton, vice-president; Dr. Lawrence C. Swift, secretary; Dr. William L. R. Paddock, treasurer, and Dr. William W. Leavitt, librarian, all of Pittsfield.

Clark County (Ind.) Medical Society.—At the meeting of this Society at Jeffersonville, April 23, the following officers were elected: Dr. Harry C. Sharpe, Jeffersonville, president; Dr. Cadwallader Jones, Charlestown, vice-president, and Dr. J. Trueman Davis, Jeffersonville, secretary and treasurer. Delegates to the AMERICAN MEDICAL ASSOCIATION were also chosen.

Brainard District (Ill.) Medical Society.—The twenty-fourth annual meeting of this Society was held at Lincoln, April 25. Dr. John R. Barnett, Lincoln, was elected president; Dr. W. P. Walker, Mason City, vice-president; Dr. Katherine Miller, Lincoln, secretary, and Dr. Charles C. Reed, Lincoln, treasurer. The Society will hold its next meeting at Springfield in July.

Southwest Missouri Medical Association.—The semi-annual meeting of this organization was held in Springfield April 25. Dr. Hilliard J. Rowe, Willow Springs, was elected president; Dr. Richard W. Paris, Lawrenceburg, vice president; Dr. William P. Patterson, Springfield, corresponding secretary, and Dr. Henry Shuttee, West Plains, treasurer. The next meeting will be held in Joplin, in October.

American Medico-Psychological Association.—The fifty-seventh annual meeting of this Association will be held at Milwaukee, June 11-14, under the executive charge of Dr. Peter M. Wise, New York. The sessions will be held at the Hotel Pfister. The annual address is to be delivered by Dr. Warren P. Lombard, of the University of Michigan, on the subject "Reenforcement and Inhibition of Nervous Processes."

Toronto Clinical Society.—This Society held the final meeting of the season on May 1. The following officers were elected: President, Dr. James F. W. Ross; vice-president, Dr. Edmund E. King; treasurer, Dr. William H. Pepler; recording secretary, Dr. George Elliott; corresponding secretary, Dr. Arthur A. Small; executive committee, Drs. Herbert J. Hamilton, Henry B. Anderson, William B. Thistle, Herbert A. Bruce and George A. Bingham.

Association of Military Surgeons of the United States.—The tenth annual meeting of this Association will be held in St. Paul, Minn., May 30 and 31 and June 1, headquarters being at the Ryan Hotel. Dr. Alexander J. Stone, surgeon-general of Minnesota, will preside. The meetings will be held in the House of Representatives and Senate Chamber. The Central and Western Passenger Associations have made a rate of one fare plus $2 for the round trip.

Alumni Association of the Medical Department of the University of Buffalo.—The twenty-sixth annual meeting of this body was held April 27, and the following officers were elected: Dr. Frank H. Moyer, Moscow, president; Drs. Alfred W. Bayliss, Buffalo; Alfred W. Henckell, Rochester; Fridolin Thoma, Buffalo; Henry S. Benham, Honeoye Falls and Jane W. Carroll, Buffalo, vice-presidents; Dr. Thomas H. McKee, Buffalo, secretary, and Dr. Herman K. DeGroat, Buffalo, treasurer.

Medical and Chirurgical Faculty of Maryland.—The one hundred and third annual meeting of this body was held at Baltimore, April 23-25, Dr. Samuel Theobald, Baltimore, presiding. The following officers were elected: Dr. J. McPherson Scott, of Hagerstown, president; Drs. Harry Friedenwald, Baltimore, and Dr. Brice W. Goldsborough, Cambridge, vice-presidents; Dr. J. Williams Lord, Baltimore, secretary; Dr. Thomas A. Ashby, Baltimore, treasurer, and Drs. William Osler, John D. Blake, L. McLane Tiffany and H. B. Jacobs, executive committee.

National Association for the Study of Epilepsy and the Care and Treatment of Epileptics.—The first annual meeting of this Society, which has for its objects the promotion of the general welfare of all sufferers from epilepsy; the stimulation of the study of the causes and of the methods of cure of this disease; the advocacy of the care of epileptics in institutions where they may receive a common-school education, acquire trades and be treated by the best medical skill for their malady, and rendering assistance to the various states in America in making proper provision for epileptics, will be held in Washington, D.C., May 14 and 15, under the presidency of William Pryor Letchworth, LL.D.

Charity Hospital of the Louisiana Alumni Association.—The annual meeting of this body was held in New Orleans April 22-24. Clinics were held by Drs. Charles Chassaignac and Frederick W. Parham on the first day; by Drs. Ernest S. Lewis and P. Emile Archinard the second day, and by Drs. John E. Elliott and Rudolph Matas the third day. Dr. Louis G. LeBeuf, New Orleans, was elected president; Dr. Jackson J. Ayo, Lafourche, vice-president; Dr. William H. Seeman, New Orleans, secretary, and Dr. S. W. Stafford, New Orleans, treasurer.

Erie County Society for the Prevention of Tuberculosis.—A meeting of this recently organized Society was held April 25. The following were chosen as directors for one year: Mayor Conrad Diehl, Dr. Ernest Wende, Dr. Lee H. Smith, president of the Society of Natural Sciences, Dr. Mary I. Denton, president of the Investigating Club. Directors for two years: Dr. John H. Pryor, trustee of the New York State Consumptive Hospital, Dr. J. C. Thompson, Rev. Thomas A. Donohue, Dr. Albert H. Briggs and Dr. William G. Bissell. Directors for three years: Dr. Benjamin G. Long, Rev. O. P. Gifford, D.D., Dr. James S. Smith, Dr. Henry Hopkins and Dr. Charles E. Congdon. Officers of the ensuing year were chosen as follows: Dr. Benjamin G. Long, president; Dr. Henry R. Hopkins, vice-president; Dr. William G. Bissell, secretary, and Dr. Albert H. Briggs, treasurer.

Louisiana State Medical Society.—The twenty-second annual meeting of this Society was held in New Orleans, April 18 to 20. Dr. Frederick W. Parham, New Orleans, presided. Nearly 100 delegates registered the first day, and 51 applicants were elected to membership. The president, in his address, deplored the transfer of the quarantine station at Dry Tortugas from the U. S. Treasury to the Navy Department, which would mean its transformation from a quarantine and dispensary station to a coaling station. He suggested that the Society enter a vigorous protest against this action. Dr. Luther Sexton, New Orleans, discussed the topic: "Is the Tendency Toward Prescribing Proprietary and Patent Medicines Increasing; and What will be its Final Effect Upon the Professions of Medicine and Pharmacy?" He arraigned physicians for prescribing remedies of unknown formulæ, and druggists for recommending and selling patent medicines. His paper provoked a spirited but one-sided discussion. The Society will hold its next meeting in Shreveport. Dr. T. Edgar Schumpert was elected president and Dr. Isaac M. Callaway, vice-president, both of Shreveport.

Texas State Medical Association.—The thirty-third annual meeting of this ASSOCIATION was held in Galveston, April 23 to 26, Dr. Berthold E. Hadra, Dallas, presiding. The committee appointed to present eighteen names to the governor for members of the State Examining Board reported as follows: Dr. Joseph W. Scott, Houston; John H. Evans, Palestine; Thomas J. Bell, Tyler. Don Juan Jenkins, Dwingerfield; J. T. Wilson, Sherman; J. C. Loggins, Ennis; Taylor Hudson, Belton; Richard H. Rush, De Leon; Matthew M. Smith, Austin; John C. Jones, Gonzales; Joseph H. Reuss, Cuero; Frank Paschal, San Antonio; P. C. Coleman, Colorado; Walter Shropshire, Yoakum; Sam R. Burroughs, Buffalo; William R. Blailock, McGregor; Arthur C. Scott, Temple; and Asa B. Gardner, Bellville. Of these the governor will select nine for appointment. The Association decided to adopt as a basis of affiliation of county and district societies, the adoption of the Code of Ethics of the AMERICAN MEDICAL ASSOCIATION; the payment of ten cents a member into the treasury of the state association, and that one delegate to the state association be allowed for societies of fifty or less members; and one additional delegate for each additional fifty members or fraction over thirty. The following officers were elected: Dr. Taylor Hudson, Belton, president; Drs. Samuel C. Red, Houston, James W. Nixon, Gonzales, and William A. Watkins, Kemp, vice-presidents. Delegates to the AMERICAN MEDICAL ASSOCIATION were also appointed. The next session will be in El Paso, April 4, 1902. The Association recommended that the AMERICAN MEDICAL ASSOCIATION hold its 1902 session at Houston.

ASSOCIATION OF AMERICAN PHYSICIANS.

Sixteenth Annual Meeting, held in Washington, D. C., April 30 and May 1 and 2.

Address of President.

DR. WM. H. WELCH, Baltimore, Md., delivered this address, at the opening session, comparing the present conditions in medicine with those at the time of the organization of the Association.

Peculiar Cardiac Sound.

DR. HOBART AMORY HARE, Philadelphia, in a paper on this subject, described a peculiar sound noted during systole, one inch to the right of the sternum and the same distance to the left of the nipple, on a level with the latter. The sound is somewhat similar to presystolic friction sound and increased by excitement and fear. He considers it evidence of abnormal myocardial action, and finds it often in depression after la grippe. He considers it of value in the diagnosis in the beginning of pulmonary tuberculosis.

Cardiac Hydrothorax.

DR. ALFRED STENGEL, Philadelphia, in his paper on this subject, considered the causes and clinical features of this condition, especially treating hydrothorax of the right side. He reported his observations on 100 patients suffering with disease of the heart, 17 of whom presented hydrothorax. Of these latter, 5 presented it on the right side and 3 on the left, and at some time during the affection it was bilateral in 9. In 2 it began on the right and was afterward bilateral. He thinks it may be traced to the obliterated lymph channels or venous pressure.

Aortic Insufficiency.

DR. W. S. THAYER, Baltimore, Md., discussed the Flint murmur in aortic insufficiency, referring to Flint's first description of this murmur in 1862, as presystolic and confined to the apex. From his observations on patients presenting the murmur in the Johns Hopkins Hospital, he has found that since May 1889. 74 cases with aortic insufficiency were noted postmortem, and the history shows that at some period in their illness, in 45, the rumbling murmur was confined to the area of the apex. Mitral stenosis was noted in connection with aortic insufficiency in 12 of the 45; 33 of 58 cases of aortic insufficiency presented the Flint murmur, and no abnormality could be detected in the mitral valve in 17 of the 33. His observations on the physical signs in 22 patients presenting mitral stenosis without complications show that the aortic thrill was present in 54.5 per cent., a sharp "snappy" first sound in 68 per cent., and in 81 per cent. of presystolic murmur. Acute rheumatism or chorea existed in 13 of the 33 patients who gave the Flint murmur, and in more than 50 per cent. arteriosclerosis was clinically shown.

Cardiac Degeneration.

DR. BEVERLEY ROBINSON, New York City, considered chronic myocarditis and fatty degeneration of the heart, believing that the differentiation of these two conditions is usually difficult. He enumerated the symptoms of cardiac weakness. He considers intestinal antiseptics of value. Where there are attacks of dizziness, the etiology is not understood, and the pulse is weak, missing occasional beats, the commencement of fatty degeneration is perhaps indicated and iron and arsenic are of use, also strophanthus and strychnia. He treated the etiology in detail, for example obesity, gout, syphilis, senility, mental strain, etc., all of which he considers as factors. The changes may be fibrous instead of fatty in the senile, and there may be hypertrophic dilatation, while we are quite likely to have thickened and tortuous arteries, with urine of low specific gravity, diminished in amount, but not containing sugar or albumin.

Pernicious Anemia.

DR. F. P. HENRY, Philadelphia, at the last year's meeting of the Association, presented his observations on a number of cases of this affection and this year reported thereon. He thinks it is unnecessary to consider megaloblasts pathognomonic. In addition to the blood findings in the diagnosis, we should rely on general signs and symptoms. He says, too, that as the nucleated cells are found in other conditions, they do not mean the presence of pernicious anemia only.

Dr. Frank Billings, Chicago, presented charts showing the progress made by a number of patients suffering with pernicious anemia, reported by him last year; 10 of the 20 patients died during the year and 4 are still under observation. He pointed out that a large number of nucleated red cells appear with marked decline in the patient's condition, though there have been a few exceptions to this. He also cited a case where the patient developed the typical lesions of the spinal cord previously observed by others in pernicious anemia.

Splenic Miliary Tuberculosis.

Dr. D. B. Stewart, Philadelphia, reported a case of acute splenic miliary tuberculosis in a nurse, who, fatigued from caring for a typhoid patient, acquired la grippe and then nursed a tubercular patient before completely recovered from la grippe. The condition originated in the spleen and the patient lived sixty-eight days, dying of generalized miliary tuberculosis, the spleen being markedly involved.

Cyst of the Omentum.

Dr. A. Jacobi, New York City, presented a cyst of the omentum removed from a child of 2 years. The condition was at first believed to be tuberculosis of the peritoneum, and success followed repeated tappings of the abdomen for a year, the tumor recurring, and then disappearing after each tapping.

Lead Poisoning.

Dr. Alfred Stengel, Philadelphia, considered the degenerative type of red blood-corpuscles found in lead poisoning. He views it as a granular degeneration, which can be detected by its reaction in the presence of certain basic aniline dyes, for instance, thionin. The granules are round or club-shaped and may be seen in normal red corpuscles or in those of irregular shape. They may be distributed in clumps and be as large as eosinophile granules. He does not find them in freshly drawn blood and does not consider them mitotic remains of nuclei. They are always present where lead poisoning is well evidenced, and are larger the more severe the case.

Neurasthenia and Melancholia.

Dr. M. Allen Starr, New York City, discussed the toxic origin of these affections, classifying them as four types: 1. Where anxiety and worry are the cause. 2. Those where overexertion is the principal factor. 3. Those with neuronic evidences of beginning degeneration. 4. Those in which the etiology is toxic. In the latter type there is headache, irritability, lack of concentration, regurgitation, eructation, constipation, etc. The patient feels better from noon until 9 p. m., and then awakens at 4 a. m. with depression, which remains with him through the morning, this cycle repeating itself over and over. He associates this with gastro-intestinal absorption and hence ascribes a toxic etiology. He follows out a digestive and eliminative treatment with calomel freely repeated in 1/10 grain doses, combined with podophyllin in 1/4 grain doses, Carlsbad salts and salicylate of sodium at breakfast. He also sees to intestinal antisepsis, baths, massage and rest.

(To be Continued.)

CHICAGO MEDICAL AND CHICAGO NEUROLOGICAL SOCIETIES.

Joint Meeting held April 5.

The president of the Neurological Society, Dr. Hugh T. Patrick, in the chair.

The subject for discussion was "Epilepsy."

Epilepsy; Its Definition, Pathology and Symptomatology.

Dr. Elbert Wing read a paper on this subject, saying: The definitions found in the literature of this subject are of two classes. Those in one do not define anything, but are mere generalized statements applicable to several diseases and of no value. The others are carefully worded, exact definitions. Examples of the first class are: "Epilepsy is a sudden, rapid, excessive, occasional and local discharge of the cerebral cortex." "It is a syndrome of nervous and mental symptoms appearing under a variety of pathological states." The best representative of the other class is that of Gowers: "The term epilepsy is applied to a disease in which there are convulsions of a certain type, or sudden loss or impairment of consciousness, but in which the convulsions are not due to active brain disease, to reflex irritation, or to abnormal blood states, and in which isolated loss of consciousness is not due to primary failure of the heart's action." In their discussion of the subject, all writers practically accept the conditions of Gowers' definition, and it may be affirmed: 1. That impairment or loss of consciousness is the fundamental phenomenon in a paroxysm of epilepsy. 2. That convulsions of a purposeless type may or may not accompany the disturbance of consciousness. 3. These phenomena must not be due to active brain disease, blood states, reflex irritation or primary failure of heart's action; that is to say, it is possible to distinguish attacks of idiopathic epilepsy from attacks which closely simulate epilepsy, but which occur in connection with other diseases.

Diagnosis and Variations of Epilepsy.

Dr. Harold N. Moyer spoke of the "Diagnosis and Variations of Epilepsy as Ordinarily Recognized." Epilepsy is easily identified when the convulsive attacks are typical. Unfortunately, the family physician often, and the consultant almost invariably, relies on the descriptions of lay people for the sequence of events in the seizure. Epilepsy is a symptom-complex, but unlike chorea and other symptomatic disorders of the nervous system, any of the features which make up the attack, may be absent in a particular case. The definition of epilepsy by Donath seems to be as satisfactory as any so far proposed: "An abnormal excitement of the cerebral cortex which increases suddenly, is periodical in its manifestations, has a typical course and disappears rapidly. Whether the attack occurs without unconsciousness and amnesia, depends upon the strength and extent of the irritation." He thinks the ordinary classifications of grand mal and petit mal are provisional only as they relate to the severity of the convulsions, the one type shading into the other, but such a definition is useful. A lapse of consciousness is the most constant feature in an epileptic seizure, but it may be absent even in cases which are characterized by convulsions, though the latter is very rare. In petit mal the loss of consciousness is very slight, or may not occur at all. Jacksonian epilepsy is commonly understood to mean those attacks which begin in a limited area of the cortex and extend by continuity. Sometimes the convulsions become general with a loss of consciousness, but more frequently they are only partial.

In conclusion, emphasis was laid on the importance of the early recognition of epilepsy. In too many instances the family physician shrinks from the diagnosis and not infrequently the family is advised that a single convulsion, even though it have all the epileptic characters, is due to a disturbance of the stomach, or constipation or other trivial cause, or, if it occur in a child, that the condition will be outgrown. This leads to a false sense of security and a failure of early treatment in this disease, when it is curable.

Hereditary, Mental and Allied States, Including Psychical Epilepsy.

Dr. Sanger Brown read a paper on this topic. He thinks suddenness and violence of phenomena in epilepsy are suggestive of chemical reaction. Therapeutic measures founded on the theory that the disease is due to an excess of diminution of this or that organic substance in the economy have been disappointing. Heredity may be divided into similar and dissimilar; similar implies the existence of epilepsy in ascendents, while dissimilar heredity refers to such ancestral diseases as insanity and imbecility. Authors do not agree as to what diseases should be included in the list of dissimilar hereditary influences. Some include tuberculosis, migraine and hysteria. All agree that insanity and imbecility are by far the most important factors. Accepting the latter limitation, Gowers finds either similar or dissimilar heredity in 35 per cent. of all cases, and of these two-thirds are similar, and one-third dissimilar, with a slight preponderance of females. Similar heredity is more often transmitted through the mother, and the heritage prefers the sex of the parent from which it was derived. That the disease is due largely to an inherited defect of the nerve elements, rendering them unduly stable, and conformably the fact that a majority of all hereditary cases begin during the same period, would be expected when the instability of the nervous system during childhood, youth and adolescence is remembered. The author's experience neither confirms nor contradicts the statement that cases of hereditary epilepsy are more amenable to treatment than those devoid of that feature.

The psychic or mental manifestations were divided into those momentarily preceding or terminating in other phenomena, or those extending over a period ranging from a few minutes to a few days prior to the seizure or seizures, those which alone comprise the individual attack, and those which are the result of the fits either momentarily or remotely, and finally, a class of cases in which the mental disorder is of such a nature that it might be more properly regarded as an association with rather an expression of epilepsy. Of the first class, the most common are those which momentarily precede the fit, and fairly constitute the mental or psychic aura. To mention these in the order of their frequency, those cases come first in which a familiar environment seems strange, and next those in which the surroundings seem a repetition or at least peculiarly familiar.

Treatment of Epilepsy.

DR. DANIEL R. BROWER, discussing this phase of the subject, said the prophylaxis of epilepsy demands much more attention than it ordinarily received. A convulsion in the infancy of a child of neurotic inheritance is often the first manifestation of an epileptic tendency, and deserves serious attention. Children of this tendency should be relieved from severe nervous and mental strains. They should be kept from the use of alcoholics, opiates, coffee, tea and tobacco in early age and adolescence, and from sexual irregularities and excesses. Phimosis, errors in vision, diseases or deformities of the upper air-passages, or any other abnormality may demand attention and correction. The question of occupation is an important one, and parents must sacrifice their ambitions for such children in order to secure their bodily and mental welfare. The prophylaxis of post-traumatic epilepsy requires the prompt and judicious treatment of every head injury. The speaker discussed the prevention of individual seizures, treatment during an attack, and the care and treatment between the seizures. Hydrotherapy is an important aid to treatment. A vigorously active skin means a more perfect elimination of toxins. A tepid bath with an abundance of soap is ordered twice a week; temperature 125 F., and a cold douche of an average temperature of 75 degrees daily, to be followed by vigorous friction. Cerebral galvanization is of value. Large electrodes should be used, and a current strength of from one to three milliamperes, and daily if possible. Two steps in this cerebral galvanization are: 1, the current is passed longitudinally, the positive over the forehead, and the negative over the nucha; and 2, from temple to temple; the séance should last about ten minutes. Some form of gymnastics should be ordered for the great majority of cases. The bromids still hold the first rank in the treatment. They must be used with proper precautions, and bromism avoided. They must be used for a long time. No patient can be called cured until the seizures have been stopped for at least five years. Their curative action requires the production of their full physiologic action, but not their toxic. He rarely exceeds one dram (4.00) a day, and is of the opinion that one dram and a half (6.00) should not be exceeded in any case. A serious objection on the part of some patients to the use of the bromids is the acne which they produce, a result that depends less on the dose than on the idiosyncrasy of the patient. Taking the mixture with a very large amount of alkalinized water diminishes the amount of it, as does also the addition of liquor sodii arsenatis in from three to five minims (0.20 to 0.30) to each dose. The arsenic, by its alterative and tonic qualities, aids the cure. In ordinary cases the iodid of sodium should be given in five grains (0.30) three times a day in the bromid mixture. In the syphilitic cases it should be given in the largest dose that is possible. When the moderate doses of the bromids fail to stop the seizures, he advises a dose of grs. x to grs. xx of chloral at bedtime, often with benefit. Acetanilid is synergistic to the bromids, and when administered in grs ii to v, three times a day, will sometimes be of service. The opium-bromid treatment has not been satisfactory in his hands. Glonoin and the nitrite of sodium are valuable remedies against the petit mal attacks, when given in conjunction with the bromids. The best intestinal antiseptics are salol, salicylate of bismuth and guaiacol carbonate. As to tonics, strychnin, arsenic, hypophosphites, phosphoric acid and iron are at all times of service. He gives iron, preferably the bromid, in half grain doses three times a day, whenever the hemoglobinometer indicates it, and then it is of great value. The results that have followed cervical sympathectomy, oöphorectomy, ligating the vertebral arteries, and the carotid arteries, have not been such as to justify advising them. If epilepsy is essentially a disease of the cell bodies, of cortical neurons, and a proliferation of the neuroglia, then all such operations are unscientific.

The colony system is the highest ideal for the treatment of these unfortunates. The proof of this is overwhelming in results obtained both at home and abroad.

DR. MAXIMILIAN HERZOG spoke on the general pathology and special histopathology of epilepsy, rehearsing the various theories and hypotheses that have been advanced relative to this affection.

DR. SYDNEY KUH said he tried the withdrawal of salt, which in Dr. Brower's hand gave such good results, and his results were absolutely negative. The same is true of adonis vernalis. He has tried them both in a number of cases in this way: He has given the bromids when the bromid treatment alone was unsuccessful and added the adonis vernalis to it, and there was not a single case in which the addition of adonis vernalis yielded better results than the bromids alone would have done. He agrees with Dr. Brower as to the combination opium-bromid treatment. In some cases this combination yields favorable results for a short time, but whether they are not due to the psychic factor more than anything else is doubtful. For some years he has in every case in which the use of bromid was indicated, employed the bromid of strontium, and after an experience comprising hundreds of cases in which this drug was given, he feels that it has certain advantages over the bromid of sodium, bromid of potassium, bromid of ammonium, or a combination of these three. The bromid of strontium has not the same tendency to produce irritation of the gastro-intestinal tract that all the other salts have, more or less. In cases of neurasthenia, with nervous dyspepsia and loss of appetite, he has frequently seen a pronounced increase of appetite after the administration of small doses of bromid of strontium. It is much less liable to produce acne than other forms of the bromid.

The continued use of large doses of the bromids have a tendency to produce mental impairment. Frequent epileptic seizures almost invariably lead to terminal dementia sooner or later. The surgical treatment of epilepsy has been unsatisfactory, and a good many cases are being operated on that should not be.

DR. JACOB FRANK spoke briefly on the surgical aspects of epilepsy. Eleven years ago he presented a series of cases of Jacksonian epilepsy before the Society, after operations, and at that time remarked that operations for epilepsy would never become popular, for the reason that if patients recovered from the surgical operations, they would still be unfit to discharge their duties as business men or as men earning livelihoods. If a surgeon undertakes an operation for the relief of epilepsy, his duty should not end by merely opening the skull and the dura, but the brain should be explored. He cited a case in which he believes that if the surgeon had explored the brain at the time he operated the patient would have recovered.

DR. HENRY GRADLE dwelt on reflex epilepsy of peripheral origin, and mentioned two or three interesting cases.

DR. FREDERICK LEUSMAN narrated the case of a young man, a confirmed masturbator, in whom epilepsy developed, complicated by hemorrhoids. The hemorrhoids were removed, and the vena dorsalis penis exsected for about an inch on each side, with the result of cessation of the epileptic seizures.

DR. L. HARRISON METTLER emphasized the importance of making, if possible, an early diagnosis. Recently he saw a statement, from one of the highest and latest authorities, that a diagnosis of epilepsy could not be made on the first or a single attack. There is no doubt that in some cases it is impossible to make an early diagnosis of epilepsy, for the reason that it so closely simulates in some respects hysteria, uremic convulsions and other manifestations. In making an early diagnosis of epilepsy physicians should be extremely careful about expressing their opinions to the relatives of patients until a more positive history can be had, preceding the first attack.

Dr. **Julius Grinker** alluded to the prevention of marriages among epileptics. Although it is not known that epilepsy is transmitted directly from father to offspring, yet investigations have shown that hysteria, insanity, and other mental defects are found in idiopathic epileptics. It is not possible that an epileptic may produce another epileptic? Epileptics who have married have become much worse as a result of their marital relations. A woman, whom he treated some years ago with the bromids, for epilepsy, and who was able to stave off the attacks for months, got married, shortly after which the attacks returned three times a week. She finally consulted him as to whether or not marriage was to blame for the recurrence of the seizures, and he replied in the affirmative. In two cases he had substituted borax for the bromids with beneficial results. Inasmuch as most epileptics are benefited by bromids, the cases in which he had an opportunity to try the opium and borax treatment were naturally few, and this explains in a measure why Dr. Brower only tried this treatment in a few cases with unsatisfactory results. He would suggest that it be not entirely condemned in a disease like epilepsy, in which so little can be accomplished with any kind of treatment.

WILLS' HOSPITAL OPHTHALMIC SOCIETY.

Meeting held in Philadelphia.

Dr. P. N. K. Sonwenk in the chair.

Primary Sarcoma of the Iris.

Dr. **Conrad Berens** presented a case illustrating the secondary stage of primary sarcoma of the iris. The patient, a young man, who was free from any symptoms and obtainable history of syphilis or tuberculosis, first noticed the affection some three years previously. Imbedded in a partially degenerate and comparatively uninflamed iris-tissue were five irregular tumor masses, over and through which some fine vessel ramifications could be plainly seen. The plane of the iris was pushed forward. The pupillary area, which was slightly distorted, contained some meshes of glistening lymph. The crystalline lens occupied its normal position. No view of the fundus could be obtained. Intra-ocular tension was increased to plus two. There was no ciliary tenderness. Based upon these findings and the fact that the therapeutic tests for syphilis and tuberculosis had been unsuccessfully applied, Dr. Berens felt certain of the diagnosis, and believed that it would be proven after enucleation.

Dr. **Frank Fisher** tended to the opinion that there might be an iridocyclitic element in the case.

Dr. **William W. McClure** agreed in the diagnosis, giving a number of differential points between the one almost certain and the other possible processes.

Dr. **Charles A. Oliver**, while fully agreeing in the etiology of the condition was disposed to place the main bulk of the growth in the ciliary body.

Embolism of the Central Retinal Artery.

Dr. **Frank Fisher** exhibited a series of water-color sketches of several stages of a case of embolism of the central retinal artery. The patient, a young subject with a mitral murmur, gave the usual history of sudden blindness. Besides the characteristic eyeground of the affection, all of the main retinal blood-currents, both arterial and venous, were found to be interruptedly flowing in their proper directions; the curious fact being that the venous currents were traveling with twice the rapidity of the arterial.

Dr. **W. W. McClure** stated that he had had the opportunity to see two cases in their very earliest stages. One of the early changes he had found consists in a lead-tinted area bounded upon its superior and inferior borders by two fine vascular twigs that are not ordinarily observable, giving the area of infiltration a caudate form. The second of his cases, which but partially closed the arteries, showed broken blood currents in the two principal veins running in the direction of that which is pursued by the ordinarily contained blood.

Dr. **Schwenk** had seen six clinical cases of central retinal artery embolism, one of which occurred in Dr. Harlan's service at the hospital, and showed the vascular beadings. His experience had been that vision seldom if ever returns in the pronounced type of the disorder.

Dr. **Charles A. Oliver** was greatly interested in the double rapidity of the venous current seen in Dr. Fisher's case, and spoke of the difference between trophic and functional disturbances found in these cases, drawing attention to the two forms of vascular circulation in the human retina. He made mention of the possibilities of endarteritis, vessel spasm and thrombus in such cases, and did not deem a differential clinical diagnosis as entirely certain in every instance as the several conditions might be coexistent.

Dr. **Walter L. Pyle** called attention to several cases in ophthalmic literature, in which, although there was complete embolism of the central artery, a small sector in the field of vision was preserved; ophthalmoscopic examination showing a cilioretinal artery supplying the corresponding retinal area.

Dr. **Fisher** did not believe that there was any collateral retinal circulation. He considered the most remarkable feature in his case to be the visibility of both the arterial and the venous circulation in the retina at the same time. He deemed prognosis as to vision doubtful when an embolism is situated within the retina, as it is not likely to undergo absorption in such a position.

Successful Extraction of Manganese Steel from the Crystalline Lens.

Dr. **P. N. K. Schwenk** showed a 45-year-old man in whom he had successfully removed a piece of manganese steel from the left lens. The points of interest in his case consisted in the facts that the form of steel imbedded in the lens substance was but feebly attracted by the magnet, and that much of the lens matter, which had appeared transparent at the time of the removal of the foreign body, afterward became opaque and greatly swollen.

Dr. **McClure** gave the details of a case of steel in the lens in which, before making the corneal section with a von Graefe knife, he created a path or track through the lens fibers with a Hay's needle, for the escape of the foreign body. After this was done it was but necessary to bring a magnet tip to within two inches of the external wound, the foreign body fairly leaping out of the eye through its open pathway. The lens mass was then expressed without any trouble. Recovery was uneventful, a corrected vision of two-thirds of normal being later obtained.

Removal of Congenital Cataract.

Dr. **C. A. Oliver** exhibited a 9-year-old Hungarian boy, from whom he had successfully removed two congenitally opaque lenses by free discission, obtaining a corrected vision of normal in each eye. The case was of interest as showing the good effects of diametrically opposed forms of treatment in the two eyes, necessitated by an attack of secondary glaucoma from stoppage of lymph flow caused by a blocking of the pupillary area. He did not consider such a complication of any great moment in the young, otherwise healthy, eye as it rapidly subsided under appropriate treatment without any damage to the organ.

Dr. **Schwenk** presented a case of congenital cataract in a white male 30 years of age, the interesting point being that three brothers were similarly affected, while three sisters had normal eyes. Ten days previous, a free discission of the right lens was done. The lens rapidly swelled and several opaque pieces of lens matter fell into the anterior chamber. One week later, although intra-ocular tension was normal and the eye was quiet, much of the remaining lens material was extruded by means of a grooved spud. At present the eye is practically well.

The Immediate Result of Mules' Operation.

Dr. C. A. Oliver showed the immediate results of a Mules' operation in a case of panophthalmitis. The patient was a 23-year-old sailor who had lost his eye about a year previously from gonorrheal infection. As a large area of the sclerotic coat at the upper corneal limbus was softened and infiltrated, he took advantage of excising this part while converting the circular corneal area into a lozenge of sufficient size to admit the placing of the glass ball into the scleral cavity. In less than five days, without any reaction, the conjunctival sac was clean and the eyeball freely mobile. In accordance with a suggestion from the senior resident surgeon of the hospital, he had most successfully employed pressure bandages instead of the usual iced compresses. He will order a properly adapted artificial eye for the patient as soon as the socket becomes fixed in size.

PHILADELPHIA PATHOLOGICAL SOCIETY.

Dr. Frederick S. Packard in the chair.

Cerebellar Lesions.

Dr. Wm. G. Spiller read a paper entitled "Cerebellar Lesions without Cerebellar Symptoms." The first specimen presented had been found at autopsy by Dr. W. S. Wadsworth, in the case of a man who had not presented any physical ailment. The man had been found in an unconscious condition, death following later. On examination the left vertebral artery was found to be smaller than the right, and there was considerable sclerosis of the left cerebral hemisphere.

Specimen No. 2, presented to him by Dr. W. E. Robertson, was from a woman 39 years of age, who had been addicted to alcohol. The patient was the mother of four children. She had for a long period complained of severe pain at the base of the brain which was always worse after each confinement. After the last labor the pain became more severe. In this case there had been some renal insufficiency. Her death had been sudden. At the autopsy the brain had been found congested and a tumor was present at the base of the brain, a portion of the growth extending into the fourth ventricle. The upper portion of the growth was cystic. She had never suffered from vertigo. The third specimen was from a patient 62 years old. During life the mind had been clear. Death was due to exhaustion. At the autopsy a tumor of the corpora quadrigemina was found.

Dr. W. E. Robertson, in discussing the second specimen, stated that the patient had suffered from albuminuria, and that she probably had marked nephritis. The eye-ground had never been examined.

Dr. D. J. M. McCarthy said that he is studying a specimen of brain presented to him by Dr. S. Weir Mitchell. He has found a cystic glioma which involved the superior and inferior vermis without having produced any cerebellar symptoms.

Malignant Endocarditis.

Dr. D. L. Edsall presented specimens from a case of "Malignant Endocarditis." The patient was a girl of 18 years of age, and in whom the diagnosis was difficult. When admitted to the hospital she had considerable fever, tremor of the hands and cyanosis. The thyroid gland was considerably enlarged. She had been taking thyroid extract for some time, and it was at first thought that some of the symptoms might be due to thyroidism. Stenosis with regurgitation was present at the mitral leaflets. Some time later the blood was examined and showed the leukocytes to range between 7000 and 26,500. The cardiac dulness was continuous with the splenic dulness, and in the latter region pain was present. Blood had been taken from a vein and cultures showed streptococci, etc. At the autopsy the heart was found enlarged, and the pericardium adherent. On the mitral leaflets vegetations were present giving rise to almost complete obstruction. The kidneys and spleen showed infarcts, and a septic thrombus of the femoral vein was found.

Dr. Albert Woldert spoke of a case of endocarditis occurring in his clinic at the St. Joseph's Hospital, the patient a girl of 0 years. On examining the heart a loud and rough systolic sound was heard. There had been slight inflammation in one ankle and one knee which had subsided within a few days. Afterward high and irregular fever with sweating and chilly sensations came on, and anemia was profound. In many respects it resembled a case of malignant endocarditis, but the child recovered, which argued against this view.

Dr. W. E. Robertson spoke of a case of endocarditis affecting the pulmonary valves, and in which the typhoid state had been present.

Melanotic Sarcoma.

Dr. M. B. Hartzell presented specimens of "Pigmented Epithelioma or Alveolar Melanotic Sarcoma." The tumor had been removed from the eyelid of a patient about 40 years of age. The growth was about the size of a pea and slightly ulcerated. It first appeared about 4 years ago, and at that time resembled a freckle. The neoplasm was composed of large cells with round or oval nuclei, the cells of which were arranged in an alveolar shape. A few giant cells could also be found. These growths probably belong to the epitheliomata, and are apt to lead to metastasis.

Sarcoma of Lung.

Dr. Newlin presented a specimen of sarcoma of the lung. The patient had been under the charge of Dr. Arthur V. Meigs, of the Pennsylvania Hospital. In 1896 the man had been operated on for a tumor located in the scapular region. Another operation became necessary a year later. In 1899 the left arm, scapula, and clavicle were removed. In February, 1901, another operation was performed, but some time later he suffered from hemorrhages and death occurred. At the autopsy a fibrous, whitish tumor was found in the right lung, which showed consolidation. The pleura on this side was adherent. The aortic valves were thickened. Numerous fibrous nodules were found in the spleen. The mesenteric glands were infiltrated. The capillaries of the liver were dilated. The tumor was for the most part made up of spindle cells.

Sections of Blood-Vessels.

Dr. Arthur V. Meigs exhibited "Sections of Blood-vessels." The speaker stated that he had frequently had trouble in obtaining clear-cut sections of blood-vessels on account of the shrinking which always occurred postmortem. This change would also produce more or less twisting of the nuclei. In order to overcome this he has made a series of glass tubes the size of the blood-vessels, which can be inserted inside the vessels, while they are being hardened. After being imbedded complete and smooth sections can be made. By this method all the different coats of the arteries and their relations can be accurately studied.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

Dr. W. L. Stowell, chairman.

Pathology of Typhoid Fever.

Dr. Martha Wollstein briefly discussed this subject. She said that while water is the most frequent means of conveying typhoid bacilli into the human organism, milk plays a not unimportant part in children, and air conveyance is recognized by Osler as explaining certain epidemics. There is abundant evidence that the typhoid bacilli pass through the placenta and infect the fetus. The bacilli have also been found in the rose spots constituting the typhoid eruption, and in the urine in 25 per cent. of the cases examined in this way during the third week of the disease. For convenience, she divided the intestinal lesions found in children into the three following classes: 1, cases without characteristic intestinal lesions; 2, cases exhibiting few and limited lesions, and 3, cases presenting as deep and as extensive intestinal lesions as in the severest ones in adults. The number of red blood-corpuscles diminishes steadily until convalescence begins.

Value of the Widal Reaction.

Dr. John Lovett Morse, Boston, read a paper on this subject. He said that in 253 cases observed at the Boston City

Hospital, having a clinical diagnosis of typhoid fever, this reaction has been absent in only ten, thus giving 4 per cent. of failures. A dilution of one in ten has been employed in these examinations, and the time limit imposed was half an hour. He concluded that the Widal reaction was present in at least 95 per cent. of all cases, but seldom present before the second week of fever. Repeated negative tests were not sufficient to exclude typhoid fever, but a negative reaction followed by a positive reaction, using a dilution of one in fifty, is the strongest possible proof of the existence of typhoid. In a series of 164 cases of typhoid fever in children, this reaction has beeen positive in 77 cases. As a general rule, it is obtained rather earlier in children than in adults, and is weaker and more evanescent the younger the subject. The evidence of typhoid afforded by the reaction in early infancy is not quite as conclusive as in later life, because of the possibility of an infection *in utero*. It has been demonstrated that the agglutinating power is transmitted through the mother's milk, even after very long periods, but when so conveyed it soon disappears from the infant's blood.

Dr. W. P. Northrup reported an interesting case of an infant of 9 months in whom the Widal reaction was absent, although the case was clinically one of typhoid, and two or three other members of the same family were at that time in the hospital with undoubted typhoid, as shown by the clinical symptoms and by the presence of the Widal reaction. The speaker also commented on the fact that in many years of service among thousands of children in the New York Foundling Hospital, where the conditions are such as to be favorable to the introduction of typhoid in connection with children "farmed" out, he and the other attending physicians have not met with one undoubted case of typhoid fever among these children.

Dr. E. Libman said that an extensive experience with this reaction in both children and adults has demonstrated its great diagnostic value in cases simulating pneumonia and meningitis.

Meeting held April 4.

Dr. George L. Peabody, vice-president, in the chair.

The Duty of the Public to the Medical Profession.

Dr. D. B. St. John Roosa pointed out the many achievements of medical science in the nineteenth century as a reason for the public taking an interest in the work of the medical profession.

Dr. William H. Thomson thought the public's lack of appreciation partly due to the erroneous belief that the practice of medicine is only a trade, and the medical profession a close, selfish and jealous corporation. He pleaded for the introduction into all our high schools, of instruction in the elements of anatomy and physiology in order that educated people may be able to appreciate at their true value the absurd claims of osteopaths, "Christian Scientists" and quacks in general.

Dr. Andrew H. Smith enlarged upon this line of thought, averring that the medical profession is largely responsible for the gullibility of the public in all things medical, by failing to disseminate popular information regarding what the science of medicine has actually accomplished and is constantly doing. The world at large has a right to know these things, and it is our duty to tell them in language which they can understand. A more frank and open course would inspire confidence and silence criticism, now too often made because of ignorance.

Dr. A. Jacobi said that the public is sufficiently appreciative of what it understood or thought it understood, and that physicians as a class are too apt to become so engrossed in their business as to neglect their duties as citizens.

MEDICAL SOCIETY OF THE STATE OF TENNESSEE.

Sixty-eighth Annual Meeting, held in Nashville,
April 9, 10, and 11.

Address of President.

Dr. J. A. Crook, in his Presidential Address, stated that the state society was chartered by a special act of the legislature of Tennessee on Jan. 9, 1830, and held its first meeting in Nashville the first Monday in May, 1830. From these beginnings he said there are at present about thirteen hundred regular medical societies in the United States alone. If he were asked what, in the last century, has contributed most to the enlargement and extension of medical knowledge, and has been the most potent factor in promoting its far-reaching benefits, he should unhesitatingly answer, the medical society, by the stimulus it has given its members to put forth great efforts toward scientific research. The physician learns and advances in his profession in three ways: By reading textbooks and medical journals; by his own personal experience and by observation, and by the experience of his brothers as related in medical societies. Personal contact carries with it the privilege of asking questions, witnessing demonstrations, and becoming thoroughly familiar with the subjects under discussion. Attendance on societies broadens one's ideas and views, prevents one from falling into old ruts, and gives him a higher and nobler view of his calling. The interchange of ideas quickens perceptions, awakens mental activities and brings out the best there is in us. The champion of a new faith or a new discovery must stand in front of the torch-light of past experience and present knowledge; he must endure unflinchingly the scalpel of interrogation, suffer calmly the probe of criticism, and when the ordeal is over and he has had the opportunity of defending his position, his wounds may be closed with the stitches of apology, and they will usually heal by first intention. Many a bump of self-esteem that would enlarge to the dignity of a cyst, if its owner stayed at home, is punctured readily enough with the bistoury of an exploratory question, in the amphitheater of the medical society.

This is an age of organization and progress, and if the medical profession would keep pace with others and reach the highest destiny, it must combine forces and intellects and strive to reach a common and definite aim. Instead of having four or five hundred names on the roll in Tennessee, there ought to be two thousand, and this result will be obtained when the public is given to understand that the status of the physician is fixed by his profession, and that to be an active member in his own county and state medical societies, as well as the American Medical Association, at least is not only an honorable distinction which no one can afford to disregard, but likewise an imperative duty which he owes to his profession; when, in short, the public shall have been given to understand that membership and active participation in medical societies is a much better criterion of professional fitness and eminence than loafing in the back-room of drugstores and relating wonderful professional achievements to the habitues of such places, then will the medical profession be regarded with a respect it has never hitherto received. And when doctors find that membership in medical societies is regarded as an index of higher professional attainments and a greater devotion to the welfare of humanity than anything else, just that soon will the question of organization be settled, and instead of the officers of medical societies being obliged to beg and implore physicians to join and take an active part in such organizations, they will be only too glad to enroll their names in order to secure the honor and prestige connected with such membership.

The ablest and most renowned men in the profession—the men who have given honor and dignity to their special calling, have ever been those who have most regularly attended the medical societies.

Another way in which the medical societies have been of value to the public is in raising the standard of medical education. Through their efforts nearly every medical college in the United States has raised the requirements for admission to a higher plane, and those for graduation to attendance on four years' course of lectures. Thus the public is assured of a more cultured, better educated and better competent class of physicians as the years roll on.

Finally, in order for the Tennessee State Medical Society to accomplish its best results and secure its greatest influence, a medical society should be organized in every county in the state, to which should belong every regular practitioner in that county. Every regular physician in the state should be interested in the general welfare of the profession, and every county society should be brought into a close relation with the state organization. To obtain recognition for its demands, the society must increase its membership until all regular physicians are connected with it. It should then make its influence felt in all that pertains to the public welfare, and act as a unit in all matters that tend to accomplish the objects for which it was organized.

The following officers were elected for the ensuing year: President, Dr. Deering J. Roberts, Nashville; vice-president for East Tennessee, Dr. William B. St. John, Bristol; vice-president for West Tennessee, Dr. L. A. Yarborough, Covington; vice-president for Middle Tennessee, Dr. J. B. Murfree, Jr., Murfreesboro; secretary, Dr. A. B. Cooke, Nashville; treasurer, Dr. W. C. Bilbro, Murfreesboro.

Memphis was selected as the place for holding the next annual meeting, the second Tuesday in April, 1902.

Therapeutics.

Treatment of Tuberculosis.

Solis-Cohen, in *Merck's Archives*, states that the best antitubercular agents are the iodin and the creosote groups. The first group is better adapted to the early stages, the second to the later stages. He regards iodoform as the best agent of the first group and it should be given in comparatively large doses and over long periods. Begin with one-half grain doses three times a day and increase gradually until within two or three months the dose reaches five grains daily. He recommends the following formula:

℞.	Iodoformi	gr. i-iii		06-20
	Strychninæ sulph	gr. 1/40		0015
	Arseni iodidi	gr. 1/12		005
	Balsami Peruviani	gr. ii-v		12-30

For the Obstinate Diarrhea in Tuberculosis

The following is recommended:

℞.	Ichthoformi	gr. v		30
	Tannalbin	gr. x		60
	Bismuthi subgallati	gr. x		60
	Codeinæ	gr. ¼		015
	Ol. menthæ pip	m. ¼		015

M. Ft. chartula No. i. Sig.: One such powder every two to six hours.

Ichthoform is a compound of ichthyol and formaldehyde. It is a blackish-brown powder, odorless and tasteless. It is insoluble in water.

Cough in Phthisis.

Daly, in the *New York Med. Jour.*, recommends for the hard, dry cough of phthisis the following:

℞.	Camphoræ	gr. ii		12
	Heroin	gr. 1/12		005
	Creosoti	m. i		06

M. Ft. pilula No. i. Sig.: One as needed to control the cough.

Apocodein in Constipation.

Combemale, in *Progrès Médicale*, recommends the following formula:

℞.	Apocodeinæ hydrochloridi	gr. viiss		45
	Aq. destil	℥iss	48	

M. Sig.: Inject thirty drops subcutaneously.

The properties of apocodein are very similar to apomorphin. It is prepared from codein by a process similar to the manufacture of apomorphin from morphin.

Bromids in Epilepsy.

L. P. Clarke, of the Craig colony of epileptics, as noted in *Amer. Med.*, draws the following conclusions concerning the use of bromids in epilepsy: The bromids still hold the important place in treatment of epilepsy. Tonics must accompany their administration. The bromid must be given gradually to ascertain the patient's tolerance; baths, high enemas, alimentary antiseptics, massage and electricity are absolutely essential to bromid-medication. Salt starvation or semi-salt starvation is a great adjunct to bromid treatment.

[In administering tonics with bromids, Bechterew recommended the Adonis vernalis, in the form of the *infusion*, in combination with the bromids as a heart and vasomotor stimulant. Adonis vernalis is somewhat similar to *digitalis* in its action, but not so powerful. Flechsig advised the administration of opium, preceding the use of bromids. He commenced with one-quarter to one-half grain of the pulverized opium and gradually increased the dose until the patient was taking a daily dose of five or six grains at the end of six weeks; then he employed the bromids.]

As a Douche in Leucorrhea.

Burtenshow, of New York, in an article in the *New York Med. Jour.*, states that a troublesome leucorrhea in the majority of instances will be checked after a very few applications of the douche, due to the toning up of the vaginal and uterine mucosa. The water may be used without any medicament whatever, but if the accompanying leucorrheal discharge is profuse, a tablespoonful of the following mixture can be added to the last quart of water remaining in the douche bag at the termination of the injection:

℞.	Pulv. albuminis			
	Zinci sulphatis			
	Acidi carbolici			
	Sodii biboratis, āā	℥i	32	
	Aquæ	℥vi	192	

M. Sig.: Use as above stated.

He further states that large hot water vaginal irrigations should never be employed by healthy pregnant women, for the reason that they reduce the bactericidal power of the vaginal secretions.

To Produce Diaphoresis.

Von Graefe recommends the following combination to produce diaphoresis:

℞.	Pulv. camphoræ	gr. ss to iss		03-09
	Pulv. opii	gr. ¼-½		015-03
	Potassii nitratis	gr. iv		25
	Sacchari	ʒii	8	

M. Ft. chartula No. i. Sig.: One powder to be taken in a hot drink at bed time.

As an Antiseptic and Lubricant for Instruments.

Prof. Necker, in *Jour. des Practiciens*, states that the following combination possesses sufficient antiseptic properties and is a splendid lubricant for use on instruments to be introduced into the vagina or urethra:

℞.	Hydrarg. chloridi corros	gr. 3/10		02
	Aquæ	ʒvi	24	
	Pulv. saponis	℥iss	48	
	Glycerini	ʒvi	24	

M. Sig.: As an application to instruments.

Treatment of Gonorrhea by Hot Saline Solutions.

Dr. Woodruff, as noted in the *Med. Press*, states that he has derived excellent results from the use of hot saline injections in the treatment of gonorrhea. He administers these injections as hot as can be borne every two or three hours and sometimes as often as every hour. He gives no medicine by the mouth and states that the average duration of the disease is from ten to twelve days.

Treatment of Ascites.

Dr. A. H. Bigg, of Detroit, in *Med. Record*, has used the following prescription containing elaterium or rather its active principle elaterin:

℞.	Elaterin	gr. 1/15		004
	Strychninæ sulphatis	gr. 1/40		0015
	Glonoini	gr. 1/200		0003
	Ext. digitalis	gr. ¼		015
	Caffeinæ citratæ			
	Pulv. caryophylli āā	gr. i		06

M. Ft. cap. no. i. Sig.: One capsule every three to six hours.

Dr. Bigg emphasizes the importance of pushing the treatment. Four to six copious evacuations per day may be maintained by the above formula until permanent relief is obtained.

The Administration of Digitalin.

Dr. Martinet, of Paris, as noted in *Ther. Gazette*, states that digitalin is generally prescribed in France by means of the following formula:

℞.	Crys. digitalin (chloroformic)	gr. xv	1
	Glycerini	℥x	300
	Aq. destil.	℥v	150
	Alcoholis (95 per cent.) q. s. ad	Oii	1024

M. Sig.: Fifteen drops in water three times a day.

Treatment of Cutaneous Pruritus.

Eichhorst recommends the following outline of treatment for cutaneous pruritus:

As an ointment.

℞.	Acidi carbolici	gr. 75	5
	Lanolini	ʒvi	24
	Adipis	ʒvi	24

M. For inunction twice daily.

Friction with lemon juice or ablutions with dilute vinegar affords relief. Internally the following is given:

℞.	Potassii bromidi	ʒiiss	10	27
	Ext. belladonnæ	gr. ivss		
	Acidi carbolici	gr. xv	1	
	Ext. glycyrrhizæ q. s.			

M. Ft. pil. No. 1. Sig.: One pill four times a day.

A New Treatment for Anorexia.

Robin, of Paris, according to the *Ther. Gazette*, states that the pure solution of sodium persulphate is of great benefit in treatment of the ordinary forms of anorexia as well as in consumption. The drug is given as follows:

℞.	Sodii persulphatis	ʒss	2
	Aquæ	℥x	300

M. Sig.: One soupspoonful a half hour before lunch and dinner.

Treatment of Smallpox.

Dr. Legrand, as noted in *Ther. Gazette*, states that one frequent symptom of smallpox is considerable gastric intolerance with frequent vomiting of bile. In such conditions the following combination is recommended:

℞.	Cocainæ hydrochloratis	gr. ii		12
	Syrupi etheris			
	Syrupi codeinæ			
	Aq. menth. pip. āā	℥ii	64	

M. Sig.: One dessertspoonful every hour.

For general treatment he uses the following formula:

℞.	Ammon. acetatis	gr. xlv	3
	Tinct. opii	℥i	32
	Elix. cinchonæ	℥ii	64
	Elix. simplicis q. s. ad	℥vii	224

M. Sig.: One soupspoonful every hour.

Calcium Chlorid in Treatment of Menorrhagia and Typhoid Enterorrhagia.

The coagulating properties of calcium chlorid have been utilized by a French confrère, according to the *Semaine Méd.* of March 20, as a prophylactic measure against menorrhagia, in the cases in which the menstruation is painless but the flow excessive. He prescibes for a week before the expected period two tablespoonsful a day of the following:

℞.	Calcii chloridi	ʒiiss	10
	Syrupi	ʒxv	60
	Aquæ	℥vi	180

M. Sig.: Two tabespoonsful a day.

This treatment repeated each month for two or three times has always cured the pathological excess of the menstrual flow. Nephritis is a contraindication. The enterorrhagia in typhoid fever is also favorably affected by calcium chlorid. Mathieu reports eight cases successfully treated by an injection once or twice a day of a liter of water at 48 C. containing 4 gms. of calcium chlorid, supplemented by 2 gm. administered by the mouth in an aqueous solution during the day, and measures to immobilize the intestines. These hot injections clear the intestines of extravasated blood and thus suppress a new source of intoxication and fever.

Medicolegal.

Compensation for Cold and Neuralgia.—The Court of Civil Appeals of Texas holds, in Houston, East and West Texas Railway Company vs. Jackson, that a judgment for $500 in favor of a passenger wrongfully expelled from a train, can not be considered excessive in amount where he got wet and contracted a cold and had neuralgia by reason of the exposure, and was confined to his bed for fifteen days.

Seven Thousand Dollars for Loss of Leg.—The fourth appellate division of the Supreme Court of New York holds, in the personal injury case of Cosselmon vs. Dunfee, that $7,000 cannot be said to be an excessive award of damages for the loss of a leg by a young, healthy man, taking into account also the pain and suffering he endured, where he was so injured as to require the amputation of the leg between the knee and hip.

Thirty-five hundred Dollars for Permanent Injuries.—In Mowbray vs. the Brooklyn Heights Railroad Company, the second appellate division of the Supreme Court of New York holds that where a man of about 50 years of age was thrown out of a carriage by its being run into by a street car, and was permanently injured, his condition growing progressively worse from the time of the accident, and he had contracted doctor bills aggregating nearly $600, verdict in his favor for $3500 could not be considered so unreasonable as to warrant this court in interposing its judgment for that of the jury. The nature of the injuries are not further described.

Not All Ambulances Given Right of Way by Ordinance.—In the case of Dillon vs. the Nassau Electric Railroad Company, an action brought to recover damages for injuries sustained by a passenger in a street-car that had a collision with an ambulance, the second appellate division of the Supreme Court of New York holds that it was reversible error to instruct the jury to the effect that the ambulance had the right of way. There was a city ordinance giving the right of way to "ambulances of the department of health," and the ambulance in question was under the jurisdiction of that department. But it did not belong to the department, and the court holds that there was not sufficient evidence to establish the fact that this ambulance was within the ordinance. If the ordinance related to all ambulances, there was no reason apparent, it says, why general words should not have been used embracing all, for it is assumed that all the ambulances in use are in some sense under the jurisdiction of the health department.

When no Presumption of Suicide—Use of Verdict.—The Supreme Court of Michigan holds, in the case of Wasey vs. the Travelers' Insurance Company, that it was error to instruct the jury that the presumption was that the insured did not commit suicide, whether sane or insane, when he was insane and the evidence showed that his insanity was of a nature usually attended with suicidal tendencies. It is to do violence to the facts, the court declares, to say of a man thus afflicted, for example suffering from melancholia agitata as the insured was shown to be, that there is nevertheless a presumption that he did not do the thing which men in his state usually or commonly feel impelled to do. Moreover, the court takes the ground, contrary to some authorities, that the verdict of a coroner's jury was not admissible as original evidence of the fact that the insured committed suicide. In other words, it says that it can not see any good reason why such a verdict should be either conclusive or evidence against a stranger to the proceeding.

Cannot Testify as to Patient's Mental Capacity.—The Supreme Court of California holds, in re Nelson's Estate, that, under the provisions of the Code of Civil Procedure, a physician can not testify as to the mental capacity of a patient he had make a will where his information on the subject was acquired by him from the patient and from observing him

while he was in attendance upon him for the purpose of prescribing for him as his physician. It says that the information which a physician acquires from his patient for the purpose of prescribing for him is given for the benefit of the patient alone, and not for the purpose of creating a right in others.

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The Administration of Digitalin.

Dr. Martinet, of Paris, as noted in *Ther. Gazette*, states that digitalin is generally prescribed in France by means of the following formula:

℞.	Crys. digitalin (chloroformic)	gr. xv	1
	Glycerini	℥x	300
	Aq. destil.	℥v	150
	Alcoholis (95 per cent.) q. s. ad	Oii	1024

M. Sig.: Fifteen drops in water three times a day.

Treatment of Cutaneous Pruritus.

Eichhorst recommends the following outline of treatment for cutaneous pruritus:

As an ointment.

℞.	Acidi carbolici	gr. 75	5
	Lanolini	ʒvi	24
	Adipis	ʒvi	24

M. For inunction twice daily.

Friction with lemon juice or ablutions with dilute vinegar affords relief. Internally the following is given:

℞.	Potassii bromidi	ʒiiss	10	
	Ext. belladonnæ	gr. ivss		27
	Acidi carbolici	gr. xv	1	
	Ext. glycyrrhizæ q. s.			

M. Ft. pil. No. I. Sig.: One pill four times a day.

A New Treatment for Anorexia.

Robin, of Paris, according to the *Ther. Gazette*, states that the pure solution of sodium persulphate is of great benefit in treatment of the ordinary forms of anorexia as well as in consumption. The drug is given as follows:

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Dr. Legrand, as noted in *Ther. Gazette*, states that one frequent symptom of smallpox is considerable gastric intolerance with frequent vomiting of bile. In such conditions the following combination is recommended:

℞.	*Cocainæ hydrochloratis*	gr. ii		12
	Syrupi etheris			
	Syrupi codeinæ			
	Aq. menth. pip. āā	℥ii	64	

M. Sig.: One dessertspoonful every hour.

For general treatment he uses the following formula:

℞.	Ammon. acetatis	gr. xlv	3
	Tinct. opii	℥i	32
	Elix. cinchonæ	℥ii	64
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Calcium Chlorid in Treatment of Menorrhagia and Typhoid Enterorrhagia.

The coagulating properties of calcium chlorid have been utilized by a French confrère, according to the *Semaine Méd.* of March 20, as a prophylactic measure against menorrhagia, in the cases in which the menstruation is painless but the flow excessive. He prescibes for a week before the expected period two tablespoonsful a day of the following:

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This treatment repeated each month for two or three times has always cured the pathological excess of the menstrual flow. Nephritis is a contraindication. The enterorrhagia in typhoid fever is also favorably affected by calcium chlorid. Mathieu reports eight cases succsessfully treated by an injection once or twice a day of a liter of water at 48 C. containing 4 gms. of calcium chlorid, supplemented by 2 gm. administered by the mouth in an aqueous solution during the day, and measures to immobilize the intestines. These hot injections clear the intestines of extravasated blood and thus suppress a new source of intoxication and fever.

Medicolegal.

Compensation for Cold and Neuralgia.—The Court of Civil Appeals of Texas holds, in Houston, East and West Texas Railway Company vs. Jackson, that a judgment for $500 in favor of a passenger wrongfully expelled from a train, can not be considered excessive in amount where he got wet and contracted a cold and had neuralgia by reason of the exposure, and was confined to his bed for fifteen days.

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Thirty-five hundred Dollars for Permanent Injuries.—In Mowbray vs. the Brooklyn Heights Railroad Company, the second appellate division of the Supreme Court of New York holds that where a man of about 50 years of age was thrown out of a carriage by its being run into by a street car, and was permanently injured, his condition growing progressively worse from the time of the accident, and he had contracted doctor bills aggregating nearly $600, verdict in his favor for $3500 could not be considered so unreasonable as to warrant this court in interposing its judgment for that of the jury. The nature of the injuries are not further described.

Not All Ambulances Given Right of Way by Ordinance.—In the case of Dillon vs. the Nassau Electric Railroad Company, an action brought to recover damages for injuries sustained by a passenger in a street-car that had a collision with an ambulance, the second appellate division of the Supreme Court of New York holds that it was reversible error to instruct the jury to the effect that the ambulance had the right of way. There was a city ordinance giving the right of way to "ambulances of the department of health," and the ambulance in question was under the jurisdiction of that department. But it did not belong to the department, and the court holds that there was not sufficient evidence to establish the fact that this ambulance was within the ordinance. If the ordinance related to all ambulances, there was no reason apparent, it says, why general words should not have been used embracing all, for it is assumed that all the ambulances in use are in some sense under the jurisdiction of the health department.

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Medical Sentinel (Portland, Ore.), April.

103 Some Points Often Overlooked in the Diagnosis and Treatment of Common Fractures of the Long Bones. R. C. Hill.
104 Abortion and Infanticide from Medicolegal Standpoint. W. W. Watkins.
105 Earache: Aniline in Aural Surgery. John A. Donovan.
106 Report of a Third Series of Twenty-five Operations for the Radical Cure of Hernia. J. B. Eagleson.

Medical Examiner and Practitioner (N. Y.), April.

107 Tetanus. Thos. C. Craig.
108 Exceptions to the Rule. G. S. Stebbins.
109 *Diagnosis and Prognosis of Chronic Interstitial Nephritis. Edward F. Wells.
110 *Methods of Examining for Industrial Insurance. W. S. Royce.
111 Practical Observations on Infantile Diarrhea. F. H. Pirnat.

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112 Gynecological Conduct. W. Oakley Hermance.
113 On the External and Internal Employment of Argentamine. Dr. Bergel.
114 Aspirin. A. A. Nefe.

St. Louis Courier of Medicine, April.

115 Mesogastrium—Omentum Majus. (To be concluded.) Byron Robinson.
116 Pott's Disease of the Spine—Diagnosis and Treatment. D. W. Marston.
117 Appendicitis—Intracapsular Fracture of the Neck of the Femur. Robert T. Morris.
118 Hysterical Astasia-Abasia in a Child Aged Two Years and Four Months. M. W. Hoge.

Maryland Medical Journal (Baltimore), April.

119 *Epidermolysis Bullosa Hereditaria, with Report of the First Case of the Disease in the Negro Race. Henry Lee Smith. Notes on the Blood and Vesicle Cells. Thomas R. Brown.
120 *Koplik's Spots: Their Value in the Diagnosis of Measles, Particularly in Private Practice. John Zahorsky.
121 *Mycosis Tonsillaris. Hughlett Hardcastle.

Dominion Medical Monthly (Toronto), April.

122 Popular Delusions about the Insane. Daniel Clark.
123 The Surgical Treatment of Cleft Palates. Truman W. Brophy.

Vermont Medical Monthly (Burlington), March.

124 Abdominal Palpation in Obstetrics. Frederick E. Clark.
125 Coughs: Their Suppression and Cure. Louis DeLorne.

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2. **Digitalis.**—Porter's article ends with the following: 1. The composition of digitalis is, chemically speaking, very complex, and some of its active principles antagonize others. 2. The different preparations differ widely in their composition and action. 3. Its cumulative action is due to its contracting the arterioles, thus shutting off nutrition. 4. It is both a useful and dangerous remedy; and one that has a very limited range of usefulness. 5. It is only of use in lesions of the mitral valve, and even then only for a short time. 6. It should only be used when there is low arterial tension and marked venous engorgements, and as soon as these conditions are overcome its action should be suspended. 7. As a diuretic it is only of value when there is low arterial tension, venous engorgement and obstruction to the exit of blood from the kidney. 8. Acting upon the normal, and in all diseased conditions in which there is obstruction to the exit of blood from the kidney, it decreases the excretory activity of the renal glands, and impairs their nutritive activity. 9. If pushed to its fullest extent it may completely arrest the functional activity of the renal glands.

3. **Hydrochloric Acid Therapy.**—Hemmeter believes that hydrochloric acid may be usefully employed in supplementing the digestive work of the stomach and bringing about normal conditions for duodenal digestion. Whenever it is indicated he would give 20 drops of diluted U. S. P. HCl in two ounces of water every fifteen to twenty minutes, beginning fifteen minutes before the meal, taking 20 drops during eating and 20 drops one-half hour after. The medicine should always be taken through a glass tube and the mouth rinsed with a weak solution of sodium carbonate afterward. Strong gelatin capsules, as suggested by Dr. C. D. Aaron of Detroit, would be good. For improving the appetite it is best given in small doses, 10 to 20 drops in three ounces of water on an empty stomach before meals. He has some doubt as to its disinfectant and antiseptic effect, as it can not be given in sufficient quantity when given with meals. Decided fermentation in the stomach is best met by lavage with HCl in the form of a 6 to 1000 solution. HCl is contraindicated when the normal gastric secretion is aug-

Medical Record (N. Y.), April 27.

15 *Experiences with Tracheotomy. John Rogers, Jr.
16 Recurrent Vomiting of Nervous Origin. Louis Fischer.
17 *Tobacco as a Factor in Glycosuria. Heinrich Stern.
18 Pityriasis Versicolor of the Face. William S. Gottheil.
19 *An Extreme Case of Simple Anemia. Rolfe Floyd and William J. Gies.
20 Albuminuric Retinitis in Pregnancy; Premature Labor: Death in Utero of Twin Child: Puerperal Convulsions; Hemiplegia; Acute Mania; Death. Joseph N. Study.

Philadelphia Medical Journal, April 27.

21 *Scurvy in Infants. Louis Starr.
22 *Notes on Leukemia with a Report of Three Cases. Charles S. Jewett.
23 *Clinical Experiences with Adrenalin. Emil Mayer.
24 Obstructions and Tabulated Report of the Result of One Hundred and Fifty Operations for Appendicitis. Leon Brinkman.
25 *Points Connected with the General Etiology, and Pathogenesis of Diabetes Mellitus. Heinrich Stern.

Boston Medical and Surgical Journal, April 25.

26 *Remarks on Anesthesia—General, Local and Spinal. Maurice H. Richardson.
27 *Experience in Search of a Cure for Asthma in the Far Southwest; With Observations on the Comparative Value of Different Sections in Respiratory Diseases. Robert Bell.
28 *Chorea During Pregnancy. F. S. Newell.
29 *Notes on X-Light. William Rollins.
30 A Special Form of Phlegmon of the Neck. F. P. Emerson.

Medical News (N. Y.), April 27.

31 The Study of Internal Medicine. William Osler.
32 The Relation of the Student of Medicine and the Recent Graduate to the Field of Surgery. George Ryerson Fowler.
33 The Medical Man in the Navy. W. K. Van Reypen.
34 The Municipal Health Department System, and more Especially in Reference to its Advantages and Disadvantages as an Opening for the Young Medical Graduate. Arthur R. Guerard.
35 The Advantages of Examining for Life Insurance. Brandreth Symonds.
36 The Outlook for the Young Physician in State Hospital and Sanitarium Work. Carlos F. MacDonald.

Cincinnati Lancet-Clinic, April 27.

37 Practice of Obstetrics in Cincinnati at the Present Day. Magnus A. Tate.
38 *A Case of Congenital Typhoid. Mark A. Brown.

St. Louis Medical Review, April 27.

39 *Review of Hydrophobia. C. Fisch.
40 *Recent Changes in the Pasteur Treatment. John C. Morfit.

Medical Age (Detroit), April 10.

41 Food Adulteration in its Relation to the Public Health. H. W. Wiley.
42 Remarks on Case-Taking and Methods of Diagnosis: Locomotor Ataxia. D. R. Brower.
43 Cod-liver Oil and How to Give it. A. N. Bell.

Virginia Medical Semi-Monthly (Richmond), March 22.

44 So-called "Conservative" Treatment of Appendicitis. I. S. Stone.
45 A Case of Papillomatous Cyst in a Child Four Years and Nine Months Old. Manning Simons.
46 Extrauterine Pregnancy, with Report of a Case of Simultaneous Pregnancy in Both Tubes. C. R. Robins.
47 Dietetic Hematuria, with Some Remarks upon Oxaluria as a Cause. John D. Thomas.
48 Infant Feeding. J. Edward Tompkins.
49 Epidermic Medication—Vel ubi Irritatio ibi Fluxus. A. B. Brooking.

April 12.

50 One Hundred and Twenty-five Consecutive "Abdominal Operations" Occurring in My Service with Dr. George Ben Johnston, with Remarks. Charles R. Robins.
51 Unsanitary Condition of the Virginia Penitentiary. Charles V. Carrington.
52 Albuminuria without Manifest Organic Renal Lesions. W. A. Deas.
53 Some Interesting Cases of Headache Due to Nasal Trouble. Joseph A. White.
54 Pathology of the Liver. M. D. Hoge, Jr.
55 A Case of Severe Mastoid Neuralgia. John Dunn.

The Ophthalmic Record (Chicago), April.

56 *Some Results of Dr. Allport's Sight Tests Applied to Chicago School Children. Chas. C. Krauskopf.
57 *Gonorrheal Ophthalmia with Complications. Report of Cases. Albert E. Bulson, Jr.
58 *A Case of Non-comitant Ribbon-like Keratitis, with Remarks. M. F. Weymann.
59 The Dioptric Power of the Cornea: A Reply to Dr. Weiland's Criticism. W. N. Suter.

Interstate Medical Journal (St. Louis), April.

60 Aphasia; Sciatica; Neurasthenia; Progressive Muscular Atrophy Associated with Locomotor Ataxia; Multiple Neuritis; Brown-Sequard's Paralysis; Progressive Muscular Atrophy. Daniel R. Brower.
61 Briefs on the Surgery of the Genito-urinary Organs. G. Frank Lydston.
62 Use of Silver in Surgery. Edward Wallace Lee.
63 "Powder Monkey." J. J. M. Angear.
64 Etiology and Treatment of Diabetes Mellitus. Frank M. Floyd.
65 Report of Case of Primary Lupus of Tongue. John C. Murphy.

Archives of Pediatrics (N. Y.), April.

66 The Blood in Infancy and Childhood. (To be concluded.) Alfred Stengel and C. T. White.
67 *Enteric Fever in Childhood. Wm. L. Stowell.
68 An Unusual Case of Erythema Multiforme. Floyd M. Crandall.
69 Duodenal Ulcer in an Infant of Ten Months. Vanderpoel Adriance.
70 Apparent Cure of a Case of Frequent Convulsions, Probably Epilepsy. Anna R. Lapham.
71 A Case of Head-nodding Associated with Spasmodic Torticollis. John H. Jopson.

Western Medical Review (Lincoln, Neb.), April 15.

72 *A Consideration of the Different Operative Procedures in the Treatment of Displacements of the Uterus: O. Beverly Campbell.
73 Removal of the Superior Maxilla Through the Mouth. Alexander Hugh Ferguson.
74 Two Cases of Cesarean Section and one of Rupture of the Uterus in which Abdominal Section was Necessary. J. Clarence Webster.
75 The Origin and Uses of the Appendix, Together with a Short Treatise on Appendicitis. Wesley Jones Morrison.

Cleveland Journal of Medicine, April.

76 On the Value of the Leucocyte Count in the Diagnosis and Prognosis of Appendicitis, with a Report of Cases. E. H. Season.
77 Report of a Case of Abscess of the Brain in a Child Sixteen Months Old. F. E. Bunts.
78 Exophoria as a Cause of Asthenopia. William E. Bruner.
79 *A Large Rhinolith. John M. Ingersoll.*
80 Two Unusual Cases of Intubation. M. Borts.
81 Report of a Case of Hysterectomy for Fibroid with Retained Placenta, Two Cases of Extrauterine Pregnancy, and a Case of Laparotomy for Intussusception with Recovery. R. F. Skeel.
82 Case of Club-foot in an Adult. William E. Wirt.
83 Cases of Diphtheria Treated by Antitoxin. W. E. Hart.

Medicine (Chicago), April.

84 *Intrauterine Periods of Stress. Jas. G. Kiernan.
83 *Intestinal Suture, All Knots Inside. F. Gregory Connell.
86 Acute Intussusception in an Infant; Operation, Recovery, Relapse in Three and One-half Months; Second Operation, and Recovery. Philip Schuyler Doane.
87 *Is there Such a Constituent of the Urine as "Ureine?" Walter S. Haines and Charles S. Woods.

Kansas City Medical Record, April.

88 *Report of a Case of Perforating* Wound of the Eyeball. J. W. Sherer.

Women's Medical Journal (Toledo, Ohio), March.

89 Hyperesthesia of the Uterus During Pregnancy. Helga Ruud.
90 The Medical Woman's Temptation and How to Meet It. Jennie G. Oreman.

New Yorker Medicinische Monatsschrift, March.

91 Dammschutz bei der Geburt der Schultern. Gustav Schirmer.
92 Ein Fall von Actinomycosis. Leonard Weber.
93 Ueber den Therapeutischen Werth der Eisensomatose. L. A. Ewald.

Medical and Surgical Monitor (Indianapolis), April 15.

94 Dental Neuralgia. S. H. Creighton.
95 Unusual Forms of Hemophilia—Report of Cases. John L. Masters.

Texas Clinic (Dallas), January.

96 Surgery as a Specialty. Samuel E. Milliken.

Indiana Medical Journal (Indianapolis), April.

97 Problem of Appendicitis from the Medical and Surgical Points of View. Robert Abbe.
98 *On the *Advantages of the Early Removal of Benign* Tumors. E. D. Clark.
99 Judicial Autopsy: Death from Angina Pectoris. R. N. Todd.
100 Case Report—Exophthalmic Goiter. Charles A. Stafford.

Iowa Medical Journal (Des Moines), April.

101 Inflammation of the Sigmoid and Colon. R. D. Mason.
102 Ethics in the Diagnosis and Treatment of Venereal Diseases. A. R. Rogers.

Medical Sentinel (Portland, Ore.), April.

103 Some Points Often Overlooked in the Diagnosis and Treatment of Common Fractures of the Long Bones. R. C. Hill.
104 Abortion and Infanticide from Medicolegal Standpoint. W. W. Watkins.
105 Earache: Aniline in Aural Surgery. John A. Donovan.
106 Report of a Third Series of Twenty-five Operations for the Radical Cure of Hernia. J. B. Eagleson.

Medical Examiner and Practitioner (N. Y.), April.

107 Tetanus. Thos. C. Craig.
108 Exceptions to the Rule. G. S. Stebbins.
109 *Diagnosis and Prognosis of Chronic Interstitial Nephritis. Edward F. Wells.
110 *Methods of Examining for Industrial Insurance. W. S. Royce.
111 Practical Observations on Infantile Diarrhea. F. H. Pirnat.

Medical Times (Philadelphia), April.

112 Gynecological Conduct. W. Oakley Hermance.
113 On the External and Internal Employment of Argentamine. Dr. Bergel.
114 Aspirin. A. A. Nefe.

St. Louis Courier of Medicine, April.

115 Mesogastrium—Omentum Majus. (To be concluded.) Byron Robinson.
116 Pott's Disease of the Spine—Diagnosis and Treatment. D. W. Marston.
117 Appendicitis—Intracapsular Fracture of the Neck of the Femur. Robert T. Morris.
118 Hysterical Astasia-Abasia in a Child Aged Two Years and Four Months. M. W. Hoge.

Maryland Medical Journal (Baltimore), April.

119 *Epidermolysis Bullosa Hereditaria, with Report of the First Case of the Disease in the Negro Race. Henry Lee Smith. Notes on the Blood and Vesicle Cells. Thomas R. Brown.
120 *Koplik's Spots: Their Value in the Diagnosis of Measles, Particularly in Private Practice. John Zahorsky.
121 *Mycosis Tonsillaris. Hughlett Hardcastle.

Dominion Medical Monthly (Toronto), April.

122 Popular Delusions about the Insane. Daniel Clark.
123 The Surgical Treatment of Cleft Palates. Truman W. Brophy.

Vermont Medical Monthly (Burlington), March.

124 Abdominal Palpation in Obstetrics. Frederick E. Clark.
125 Coughs: Their Suppression and Cure. Louis DeLorne.

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mented, and there are cases where there is a special hyperesthesia, not dependent on hyperchylia. The amount required for the gastric digestion of albumin is enormous, as he says here, and it is not possible that the glandular layer can secrete the requisite amount when the transit of food into the duodenum is obstructed. When gastric secretion shows absence of free HCl and it is not due to atrophy of the mucosa, one of the best methods of restoring the secretion is by lavage with a solution of HCl, three to four parts to 1000 of warm water. The diet should consist largely of foods requiring a considerable amount of HCl for digestion as these are effective stimulants for the gastric secretion.

4. **Hyperplastic Colitis.**—The case reported is of interest on account of final recovery after extensive operations including extirpation of the entire colon, the upper portion of the sigmoid flexure and four inches of the ileum.

5. **Intestinal Antiseptics with Antiseptic Pads in Obstetrics.**—Garrison concludes his paper as follows: In all obstetric cases having a normal contracted uterus with a patulous os which does not rest against any part of the vaginal wall that pure blood may constantly flow over the endometrium and vagina, cleansing them from all bacteria, bathe the vulva with antiseptics and keep it covered with an aseptic pad. Have a *prima via* free from obstructions and constantly cleansed with antiseptics. If this regime is carefully carried out 99 per cent. of the patients will make an uninterrupted recovery, and vaginal and uterine douches should be omitted until near the close of the puerperium when they will be agreeable to the patient.

6. **Gastroptosis.**—A common mistake as regards gastroptosis, according to McPhedran, is that it is considered infrequent, and another error is in the assumption that when it exists it must give rise to grave disturbances. He reports cases and sums up his conclusions as follow: 1. Gastroptosis frequently exists without giving rise to any discomfort. So long as the functions of the stomach are performed efficiently no symptoms will arise from its abnormal position. 2. The symptoms of gastroptosis are due to the protracted retention and decomposition of food in the stomach with the local irritation and constitutional poisoning resulting therefrom. 3. In the condition known as Glénard's disease the gastroptosis or splanchnoptosis plays only a part, often a minor one, in the production of the symptom-group. In not a few instances the splanchnoptosis is rather the result than the cause of the condition.

8. **Tenontitis and Tenontothecitis Prolifera Calcarea.**—The case reported by Beck was at first sight like an osteosarcoma of the hand. The Roentgen rays, however, revealed the true condition. The third metacarpo-pharyngeal joint was the seat of the focus of inflammation; the first phalanx was grown together with the metacarpus in a laterally dislocated position; the cortex of the condylar side was totally destroyed. The tumor was well outlined in the skiagraph, showing calcareous areas. The condition is described by the author as a much degenerated (cheesy) tissue in the state of necrosis which seemed to have a sort of magnetic effect on dissolved calcareous salts, causing them to amalgamate. The condition was analogous to those found in tuberculous foci of the lungs and not infrequently in endocarditis and pericarditis, in old pleuritic bands, etc. The tendons and sheaths appear to be seldom the seat of predilection for calcareous deposits, as in this case, and he suggests for this heretofore unknown condition the names "tenontitis" and "tenontothecitis prolifera calcarea."

9. **Nasal Deformity.**—Booth describes and illustrates a case of deviation of the septum with undeveloped nasal bones, producing saddle-back deformity, and to some extent involvement also of the ethmoidal and sphenoidal bones. While he was not anxious to operate, he first corrected the septal deviation and later, after this had been held in the proper position, he made a longitudinal incision along the dorsum of the nose loosening the nasal bones and elevating them, holding them in their proper position by gauze packing, and relieved the pinched-like appearance by means of a curved needle armed with a piece of antiseptic catgut which was made to take a circuitous course in the following manner: The needle was inserted into the deep tissue at a point corresponding with the lower border of the compressor muscle on the left side of the nose; it was directed upward and made its exit about three quarters of an inch above its entrance. It was then passed over the dorsum and made to enter the deep tissue of the right side at a point corresponding with the point of exit on the left side, passing downward in a shirring-like manner, emanating at a point opposite the point of entrance of the left side. The ends were now tied carefully, pulling the soft tissue up so as to fill in the depressions. This being done, the skin was brought into place and held there by a subcutaneous suture, silkworm gut being used; the nose was dusted over with aristol and dressed, the patient placed in bed and kept there twenty-four hours, at the end of which time she was allowed to get up, and the wound was dressed. The results were favorable, as shown by the illustrations. He remarks that he thinks the combined use of cocain and adrenal capsule as a local anesthetic hemostatic in correcting septal deviation is preferable to general anesthesia, since there is less danger from heart failure or respiratory troubles and there is an absolute lack of hemorrhage.

10. **Hospital Positions.**—MacMurchy gives a list of the hospital positions open to women in Great Britain and in this country, and also elsewhere so far as they could be obtained. The total number is 559, government, municipal and hospital, and 11 positions have been recently opened to competition.

11. **Infection Predisposition.**—Gaertner has investigated and performed experiments to determine the relation of predisposition to infection observed in some cases, especially in anemia. He finds, by taking the results of all of his experiments, that anemia consequent on bleeding or starving produces a quicker and greater lack of resistance to infection than in the normal animals, and concludes that the conditions which favor this predisposition to infectious diseases have to be looked for in the hydremia of anemia.

12. **Pneumonia in Children.**—In infantile pneumonia Fischer would give, at the beginning of the fever, 1 drop doses of tincture of aconite every hour, with or without spiritus Mindereri in one-half teaspoonful doses until diaphoresis is produced, also calomel until the liquid green stool is produced, which is important as stimulating the bowel and kidney action in view of the possible complication of nephritis. Water should be given *ad lib.*, as it is valuable in carrying off toxic products and stimulating the urine and diaphoresis. An occasional dose of castor-oil or calomel is advisable to clear out the swallowed sputum from the intestinal tract. This eliminative plan of treatment should be carried on through the whole course of the disease. Antipyretics of the coal-tar series are all cardiac depressants and therefore should be accompanied with stimulants. He has made it a rule not to give them at all, but rely altogether on hydriatics and if the temperature gives rise to nervous symptoms, a tub-bath is advantageous, beginning with 90 F. and gradually cooling to 70, but not prolonged usually more than five minutes. Vigorous rubbing while in the bath will stimulate the circulation and prevent collapse. In very young and delicate infants it is advisable to give a few drops of Hoffman's anodyne just before the bath. Mustard baths are also useful as a circulatory stimulant and diaphoretic. German mustard should be employed. It is best used by sewing about one ounce in a small bag of cheese-cloth, immersing this a few minutes before placing the child in the bath, adding enough water to make a full bath covering up to the knees. The duration should be about two minutes and marked local hyperemia be produced. Intense dyspnea is best relieved by dry cups over the thorax, three on each side, above and behind, to be repeated in a few hours if relief has been afforded thereby. Oxygen can be best obtained by ventilation, excluding all needless persons, opening the windows, but screening from drafts and enforcing absolute quiet. Codein should be given only to produce sleep when natural methods fail, and then in about 1/10 gr. doses, repeated in an hour or two if no effect is produced for a child 1 year old; younger and older children in proportion. In a toxemic condition we should stimulate by good Tokay wine or whisky

diluted, and lastly the sheet-anchor of the treatment should be nutrition; to feed our patients milk, good soups, egg albumin, etc.

13. **Anesthesia-Paralysis.**—The paralysis which is observed after operations and credited to the anesthetic or conditions during anesthesia is noticed and a case, which Brickner claims to be the fifth in the literature, reported. While none of the views as to the causation of the condition seem entirely satisfactory to him, the traumatic element is evident, and he deduces the following conclusions: 1. The care of the arms is as important a part of the anesthetist's duty as is the administration of the narcotic. They should never be allowed to hang over the edge of the table. This position threatens the musculo-spiral nerves by pressure, and the entire plexus by stretching. 2. Rotation and superextension of the head should be exercised only while emergency requires it. 3. Prolonged pressure of any kind should be avoided, be it that of an assistant's hand or body, or that of a harness. When used, the shoulder strap of a leg-holder should pass over the tip of the shoulder, or over a large pad of cotton wool on the neck; or, best of all, should be held by an assistant—the anesthetist can usually spare a hand to pull the strap up from the body from time to time. It should be remembered that this apparatus has occasionally caused paralysis in a leg, as in one of Garrigues's cases. 4. The common practice of drawing the arms alongside the head, however, much it may contribute to the convenience of the anesthetist and the comfort of the operator is a bad one, and should not be tolerated. Remembering that in some of the cases reported (25) the arms were lying alongside the body during the operation, the safest rule to follow is to avoid allowing either arm to remain for more than a few minutes in any one position, however innocent that position may appear to be.

15. **Tracheotomy.**—Seven cases with 4 laryngotomies and 10 tracheotomies without a death are reported by Rogers. In the majority the operation was done under difficulties and in great haste. He specially dwells on this point as showing that the fear of the operation is comparatively groundless. The greatest difficulty was from struggling, in most of his cases, and in most the cricoid cartilage was divided. This, if a canula is worn, leads to bad cicatricial contraction, but he thinks this can be overcome by dilatation with urethral sounds until specially made intubation tubes can be put in. Cocain should always be used when controllable, but children or patients who can not be kept quiet require chloroform and he has used it with no bad effects. Laryngotomy, except for tumor, is absolutely useless, but the high operation has some distinct elements of safety. Low tracheotomy has only the doubtful advantage of a less probability of subsequent stricture above a long-retained canula, but there is some danger of wounding veins, and hemorrhage. If a large vein were injured death from asphyxia might occur before it could be secured. The lower the fistula the more difficult it is to pass the intubation tube by it and to keep the lower end of the instrument from slipping out and catching the wound. This is the objection to the low operation, leaving the stenosis to be overcome afterward by intubation. In general, and especially for emergencies, and chronic stenosis to be subsequently treated by intubation, the high operation is best. Granulations are often heard of as serious dangers in cases of long retained canulæ, but Rogers thinks this complication can not be common as it was not met with in any of his cases.

Tobacco and Glycosuria.—Stern finds that the habitual and excessive use of tobacco increases the existing glycosuria, and is occasionally though less frequently a cause of the condition. It may influence the pre-established pathologic output of urinary glucose in the following ways: 1. By protracting the duration of transitory glycosuria, and by imparting to alimentary mellituria a certain degree of chronicity. 2. By increasing the quantity of dextrose in the twenty-four hours' urine, in the transitory as well as the chronic forms of glycosuria. 3. By transforming the lighter degrees of chronic glycosuria into the graver forms. Cases of alimentary glycosuria prolonged by the excessive use of tobacco are not at all uncommon and he has repeatedly demonstrated this by experiments on individuals. Several of these are reported. The literature is scant in this regard, but a few authors suggest the withdrawal of tobacco. Nicotin poisoning is not, he thinks, the leading cause, at least, of this effect. The main poison contained in tobacco, and one whose toxicity has not been fully appreciated, is carbonic oxid gas. It is always present, especially with cigar smoke, and habitual and excessive indulgence may produce chronic carbonic oxid intoxication. The glycosuria often follows chronic poisoning from this substance, while in the acute, non-lethal intoxication, it is always limited in degree as well as duration. CO poisoning originating from excessive cigar smoking is persistent as long as its causative factor continues.

19. **Simple Anemia.**—The history of the case reported by Floyd and Gies is one of extreme simple anemia, which showed in the beginning; H.B. 12 per cent.; R.C. 750,000; W.C. 3300. Under maximum dosage of 39 gr. of sulphate of iron, and 1/10 gr. of arsenious acid, the appetite became normal with subsidence of all symptoms, in seven weeks, the treatment being entirely suspended. The blood continued about the same while under observation for a year and a month after convalescence had been established. The case is classed as simple anemia on account of the rapidity and degree of recovery. The urine and feces were closely examined and a case of pernicious anemia is given in comparison. The similarity of the blood in the two cases was striking, the clinical features also. The authors think that the comparison demonstrates that the differentiation of primary anemia into simple and pernicious can not be made, especially in severe blood lesions merely by examination of the blood count, but that clinical features must weigh equally with it in establishing a diagnosis. To obtain a satisfactory classification of anemias it will be necessary, besides counting and studying the peripheral blood: 1, to understand the life history of the blood cells, which can be accomplished only through study of the physiology and pathology of the blood-making and blood-destroying organs; 2, to investigate more thoroughly the interrelations between the normal and diseased processes occurring in the blood and those occurring in the other body tissues; 3, carefully to correlate the results of such studies with those obtained by clinical experience.

Infantile Scurvy.—Starr attributes scurvy in infants to continued deprivation of fresh food; the quality of the freshness is an important one. He classifies the faulty foods as follows, in the order of their potency: 1. The different proprietary infant's foods administered without the addition of cow's milk. These foods are responsible for the greatest number of cases, and which variety most readily induces the disease depends chiefly on the extent of employment or the fashion at the time. 2. Proprietary foods employed with the addition of insufficient quantities of cow's milk. 3. Oat-meal or wheat gruel, barley and other farinaceæ administered with water alone or with water and insufficient cow's milk. 4. Condensed milk and water. 5. Sterilized milk; properly modified milk mixtures subjected to a temperature of 212 F. from thirty minutes to an hour or more. 6. Too dilute milk and cream mixtures; laboratory mixtures with too low albuminoid percentage. These explain the greater frequency of infantile scurvy in the well-to-do infants than in the poor. The symptoms and conditions are fully discussed and also the treatment. The essential features of the latter is the employment of a food composed of cow's milk, cream, water and milk-sugar, properly proportioned to the age of the infant and given, so far as the cream and milk are concerned, in the natural fresh state, not passed through a separator and not sterilized. Pasteurization and pre-digestion at a temperature of 115 F. are valuable in certain cases, but should never be employed when the cream and milk are properly handled at the dairy and can be kept clean and sweet and when the infant's digestion is even moderately active. The addition of fresh ripe fruit juices, orange juice especially, is useful, and when it can be taken, as is usually the case, without diarrhea. When orange juice can not be obtained scraped apple, fresh grape juice and grapes without the skins and seeds in addition to the dietetic treatment are useful. Inunctions of limbs with warm olive-oil may be a help and perhaps some preparation of iron like ferrated elixir of cinchona. If there is great prostration, strychnia and alcoholic stimulants should be administered and all complications should be met as they arise. The article includes a tabulated statement of cases of infantile scurvy occurring in the author's practice in the last ten years.

22. **Leukemia.**—Three cases are reported by Jewett, who discusses the theories and thinks that the evidence is strong enough to make it difficult to doubt the infectious nature of at least the acute forms. In one of his three cases there was apparently a heredity, as it seems a brother and sister also died from a similar cause. He doubts the existence of anemia infantum pseudoleukemica as a distinct entity, and points out the difference in his two infantile cases from the description of this disease.

23. **Adrenalin.**—Mayer concludes from his experience with adrenalin in nasal disease that: 1. Adrenalin solutions supply every indication in rhinologic practice for which the aqueous solutions of the extract have been hitherto applied. 2. They can be used in sterile form. 3. They remain unchanged for a long time. 4. A solution of 1 to 1000 is very strong and is all sufficient for operative cases, and 1 to 5000 or 1 to 10,000 for every purpose of local medication. 5. They may be safely applied to persons of every age and of either sex. He believes that in isolation of the blood-pressure-raising principle of the suprarenal glands we have an epoch-making discovery.

25. **Diabetes Mellitus.**—From a study of the mortality statistics of New York City for eleven years, Stern finds that out of 1867 deaths from diabetes mellitus about one-half occurred in females, which is contrary to the usual ideas. It is a rare affection in infancy and early adolescence. In very early ages the most cases were males, though during the rest of early life the proportion of the sexes were about equal. As regards race the colored seem to be very free from it, while the Jews and Irish composed fully one-half of the cases. The disorder is not especially common among well-to-do. It occurs mostly among the working classes. He attributes the various glycosurias to one or more of the following causes: 1. To excessive ingestion of carbohydrates—alimentary glycosuria. 2. To diminution, or functional disturbance, or excessive or abnormal disintegration of the erythrocytes—glycosurias following the introduction of poisons and toxins, or the perverted function or removal of certain glands and organs—hematogenic glycosuria. (Pancreatic diabetes—Seegen's grave diabetes). 3. To traumatism—neurogenic glycosuria. 4. To interference with the glycogenic function of the liver to the extent that the ingested carbohydrates are not utilized normally—common or hepatogenic diabetes. 5. To a general protoplasmic deterioration and plasmolysis—diabetic deterioration. The latter part of his paper is given the description and discussion of the hematogenic glycosuria and diabetic deterioration, which he calls the most typical of diabetic diseases.

26. **Anesthesia.**—The bad effects from anesthesia are first noticed, which Richardson thinks are largely due to over-confidence and non-experience. He has never seen a death from ether itself, and he thinks that while there may have been such due indirectly to it, their number is extremely small. Only urinary suppression and pneumonia seem to him important. When a patient dies after a severe operation, even with these symptoms, it is an unwarrantable assumption that death was due to the anesthetic and not to the operation. It is absurd to say that pneumonia developing three weeks after the operation was owing to anesthesia. Only such beginning directly after recovery can be fairly said to be thus due. The subcutaneous use of cocain would be much more perilous than ether, accidents from the use of which come from disregard of danger signals and from over-etherization, not from the intrinsic dangers of the drug. General anesthesia is strongly contra-indicated under some conditions. The most important are the abdominal conditions or dangers which threaten the patient's life by regurgitation into the throat during profound anesthesia or when patients are operated on with full stomachs. Heart disease is usually regarded as a contraindication to general anesthesia, but that is not according to his experience. His chief anxieties have come from diseases of the lungs, but he is inclined to think that this anxiety is seldom justified by facts. Failure to breathe is a serious matter, and it is fortunate, and in this fact lies the great safety of ether, that a patient, with healthy lungs at least, always reacts to artificial respiration. Local anesthesia has worked well in advanced general peritonitis and dislocations, and in the few cases where he has tried it. Local anesthesia is to be preferred for all trivial operations where thoroughly applied. By such he means removal of small tumors, aspiration, amputation of fingers and toes, etc. He doubts the propriety of local anesthesia in operations like appendectomy, radical cure of hernia and major amputations. As a rule simple weakness does not contraindicate general anesthesia. It is rather the stout, flabby patient, past middle life, who has the accidents. He doubts whether in the acute febrile diseases the dangers of general anesthesia will be avoided by local or spinal cocainization. These new methods, however, have a reasonable application in some, as previous experience has shown, who bear general anesthesia badly. Another class of cases inviting disaster under general anesthesia comprises operations on the deep cervical phlegmons, tumors close to the trachea, involving or pressing on the laryngeal nerves. The imperative operations on the larynx and trachea are included, and the gravest emergencies may arise. He thinks the new method may be more serious than general anesthesia has been found to be, and doubts whether, after fifty years of use like ether or even chloroform, it will show a safety to be compared with them.

27. **Asthma.**—Bell considers the climate of Arizona altogether the best for chronic respiratory diseases, and Tucson the place above all others he would choose. It is mild, dry and comparatively windless. New Mexico also has several desirable places corresponding closely with those in Colorado, but Arizona is the most favored. He advises physicians to send patients there only in the first stage of their diseases as the second and third stage cases rarely recover.

28. **Chorea During Pregnancy.**—Newell says that true chorea is a definite complication of pregnancy, though it does not in the majority of cases depend on previous chorea of infancy, but upon special predisposition, either hereditary or acquired. The general opinion is that it is a neurosis due to stimulation of the utero-ovarian plexus. However this may be, it may be said that the organism is in a state of unequal equilibrium ready for the stimulus which causes the outbreak. This state is closely related to hysteria and it is the predisposing cause. Previous infectious diseases may prepare the ground; auto-intoxication, however, is so frequent that it is hardly necessary to call them into account. Pregnancy alone is to be considered the direct cause. Some more or less violent nervous shock is possibly the starting-point. The symptoms are described, both mental and physical. The disease usually lasts during the whole term and, while rare, is important both to the mother and the child. The drugs usually employed are sedatives, bromids, chloral, morphia, and alteratives as arsenic and iron. A case is reported. In conclusion the author remarks in regard to the frequency; out of 11,000 cases in the Lying-in Hospital, of Boston, there have been 12 cases of chorea; 11 of these were primiparæ and gave a history of previous attacks during childhood, and none of these were serious.

29. **The X-ray.**—The fact that *x*-light tubes deteriorate from use is noticed, and Rollins concludes that the most important study to be made in regard to them is to find how they may be made to keep the character of the light constant. Meanwhile the best way to excite an *x*-light tube is to use surges of millions of volts and many horse power, each surge lasting for not more than a millionth of a second.

38. **Congenital Typhoid.**—Brown reports the case of a child prematurely born while its mother was suffering from typhoid fever. The child's temperature was 101 when born and rose steadily to 103, afterward falling. The child grew weaker and weaker, and died in two weeks. On the ninth day after birth the Widal reaction was obtained complete in forty-five minutes. The autopsy showed enlarged spleen, enlarged mesenteric glands and characteristic healed ulcers in the ileum.

The case is reported on account of the rarity of congenital typhoid. The fact that miscarriage was produced by the disease of the mother, and that the child went nearly to full term in spite of the essential improper nourishment bears out the statement of the comparative mildness of the disease in the young. He has found but a few cases similar to this in the literature.

39. **Hydrophobia.**—Fisch reviews the facts in regard to hydrophobia as far as known, with a study of the Pasteur treatment, and concludes that there are many problems yet unsolved in regard to it. The germ, which is cellular since it does not pass the Chamberland filter, is yet to be discovered, and another question is how those persons can be saved in whom the period of incubation is too short to outrun the outbreak of rabies by means of the Pasteur treatment. Still another question is how are we to treat fully developed rabies?

40. **Hydrophobia.**—Morfit notes the recent advances in the Pasteur treatment, especially the fact that the cord of a fixed virus rabid rabbit can be kept in glycerin for at least three weeks, thus diminishing the expense of the technique of this treatment.

56. **Sight Tests in School Children.**—Krauskopf gives some results of Dr. Allport's sight tests in Chicago school children, and states the relation between school life and sight, briefly as follows: "The slighter eye defects are found to increase rapidly during the first three or four years of school life, and of this increase school conditions and work seem to be in some degree the cause. Following these years is a period when natural conditions of growth and development overcome all unfavorable forces both in and out of school, resulting in a rapid improvement in the eyesight; while later through high school life no material increase or decrease can be detected. The more serious cases seem also to show the effects of early school work and to continue to increase steadily throughout school life, but for this, especially when the visual acuity is exceptionally low, it does not seem just to hold the schools responsible." The special points of the examinations are discussed, quoting particularly the abnormal relationships between general development, mental and physical, and eyesight, etc. The conclusions are offered as tentative, but are given, he says, for what they may be worth as suggestions.

57. **Gonorrheal Ophthalmia.**—Four cases of this disorder are reported by Bulson, who says that, given a case of disease, verified by microscopic examination, the first thing to be done is, if the edema of the lids is marked, to divide the outer canthus and prevent pressure on the cornea. The next is thorough flushing with an antiseptic solution to keep the parts free from infective material. He insists on having a relay of nurses and thoroughly washing the infected eye every fifteen minutes night and day. In no other way can the eye be kept free from purulent discharge. The skilled nurse can manage this without thoroughly arousing the patient if he is asleep. Special caution is given not to touch the cornea with anything for fear of producing an abrasion and introducing infection. If panophthalmitis has set in, evisceration is always preferred to enucleation, owing to the danger of meningitis, and he thinks the latter unjustified except in very rare cases.

58. **Non-comitant Ribbon-like Keratitis.**—From a study of the cases reported Weymann infers: "1. That ribbon-like keratitis arises from trophic disturbances in the lymph spaces of the anterior layers of the parenchyma. 2. That, as a result, Bowman's membrane suffers and thus produces epithelial hypertrophy in the same manner as a low grade of irritation in a wound would produce unhealthy granulations. 3. That calcareous degeneration is an accidental result, but that desiccation being most easily effected in the line of palpebral fissure, the typical bands would naturally appear there first."

67. **Typhoid Fever in Children.**—The records of 61 cases of typhoid fever in children form the basis of Stowell's article. Most of the cases were sporadic and the etiology not often clear; 24 of these occurred in 10 families, and he thinks carelessness may have caused the spread of the disease. The youngest patient was 9 months old; the majority occurred in older children. Of the dispensary cases, 17 were females, 28 males. The temperature frequently varied from the typical, and several curves are shown. Convulsions were not frequent, nor was delirium a constant symptom. Apathy and mental dulness are common even in the very young. Headache is often present and epistaxis very common, usually during the first week. Twice he has seen the eruption almost universal; it usually appeared about the eighth day, about the time the temperature reached its height. Compressibility and non-resistance of the pulse are diagnostic. Both leucocytes and erythrocytes are diminished in the blood, unless pneumonia occurs, when there may be a decided increase. The hemoglobin is greatly reduced, but the anemia is frequently of a type from which recovery is rapid. In 95 per cent. of the cases the Widal reaction was positive; its only disadvantage is its late occurrence. Of the usual digestive symptoms, tympany is less constant in children than in adults. In two cases there was intestinal hemorrhage. At the beginning children are apt to be constipated; later there may be a slight diarrhea. The spleen is apt to be enlarged, though he can not give the percentage. The kidneys, like other organs, are disturbed; he finds the diazo reaction a helpful diagnostic test; the urine is usually not much concentrated. The complications observed were relapses in 3 cases, scorbutus, parotitis, varicella, and pneumonia. The average duration was twenty-three and a half days, though it extended to forty-one days without complications in one case. There were no fatal cases in the 61 children. The treatment should be such as husbands strength and favors speedy convalescence. Diluted milk to avoid coagulation, broths, custards, gelatin preparations and eggs were given. The medicinal treatment was largely directed to intestinal antisepsis with attention to the stimulation of the heart. Alcohol was used only as a dietetic in convalescence. With the coal-tar antipyretics the effect on the circulation had to be carefully watched, but he would not hesitate to give them in certain suitable cases. He relies more on sponging than baths; there is less trouble from fright or danger of collapse in the weak. For antiseptics he uses mercuric bichlorid 1 to 1000 for washing the hands, thermometer, etc., and if permanganate of potash is used it lessens the risk of mistaking the solution; for the excreta, chlorid of lime, a stock solution of 8 ounces to a gallon of water. Of this solution 1 ounce added to a gallon of water is used for disinfecting stools or soiled linen. There is no routine medicinal treatment. Whether the food is liquid or solid is of less importance than that it is properly assimilated. Heart stimulants should be reserved until actually needed, and we should guide the disease we can not stop.

72.—See abstract in THE JOURNAL of January 12, p. 127.

84.—See THE JOURNAL report of meeting of Chicago Academy of Medicine, pp. 1270-1272.

85. **Intestinal Suture.**—The various methods of suturing the intestine are reviewed at length by Connell, who refers to a method of enterorrhaphy devised by him and published in the *Philadelphia Medical Journal* in 1899, which is illustrated again in the present article. Its special advantage is that all the knots are left inside the lumen of the intestine and are therefore more easily disposed of. The method is in some respects similar to the Maunsell method, but does away with the necessity of a second excision and invagination. This circular enterorrhaphy with all the knots in the lumen has been performed in eleven instances, by Franklin H. Martin, Wyllys Andrews, A. H. Ferguson, W. E. Schroeder, Emil Ries and himself. In three cases recovery did not take place, but in none of these could death be attributed to the method of suture. See THE JOURNAL, xxxv, p. 1150.

87. **Ureine.**—Haines and Woods criticize Moor's alleged discovery of ureine and, from numerous tests, conclude that it is simply a strong aqueous solution of recognized urinary solids and of chemicals used on the urine. While Moor's article shows evidence of its errors to the skilled chemist, they are not so apparent to the rank and file of the profession, and therefore this criticism is offered.

98. **Early Removal of Benign Tumors.**—The early removal of benign tumors is advocated by Clark to lessen the danger of their becoming malignant, to avoid damaging im-

portant structures by pressure and on account of the less risk of operation at an early stage of their growth, and the avoidance of unsightly scars from their removal. Each of these points is discussed in detail.

109.—See abstract in THE JOURNAL of April 13, p. 1060.

110.—Ibid., p. 1061.

119. **Epidermolysis Bullosa Hereditaria.**—The first case so far as known, in the negro race, of this rare condition, is reported by Smith, who gives a summary of the literature. The blood examination in this case was made by Brown, who found a general and local eosinophilia, which he thinks is in accordance with the pemphigus nature of the disease. The blood count in this case closely corresponds with that of the case reported by Columbini, the only other one in which the blood count is given.

120. **Koplik's Spots.**—These spots, according to Zahorsky, are a furfuraceous desquamation of the mucous membrane, and entirely analogous to the desquamation of the integument. So far as observation has extended this is present in measles alone, but it is not uniformly found in this disease. Occasionally the spots are entirely absent in mild cases. Their presence is exceedingly fleeting in many cases and they may be removed by the process of chewing of food. They also may fail to be detected on account of imperfect light. In the cases in his clinic, where they are not found, careful examination is made. If the post-cervical glands are enlarged and the prodromal fever has been very short and there is no trace of the Koplik spots, the disease is diagnosed rubella. If, however, prodromal fever lasts longer and the glands are only slightly enlarged the disease is assumed to be measles, even if the spots are absent. Often in place of the bluish-white spots very minute purple and dark red spots may be seen. These show the places where the scales have been removed. There is no question as to the value of Koplik's spots when present, but their absence does not exclude measles. The earliest sign of measles is a typical rash on the mucous membrane. Sometimes it may be readily recognized, particularly on the palpebral conjunctiva.

121. **Mycosis Tonsillaris.**—Hardcastle considers this disease rare and of interest because of the possibility of its being confused with follicular tonsillitis, though this does not occur with any one who has ever seen a case. The distinguishing points are the small milk-white spots elevated above the mucous membrane instead of the yellowish spots under or at the level of the mucosa in the tonsil. The lack also of constitutional symptoms of inflammatory disorders, which are not present in this disease, is of value. The eradication of the growths is difficult and can as a rule be only accomplished through curettage and the cautery, the galvanocautery being the better. The diagnosis can always be determined by microscopic examination.

127. **Puerperal Infection.**—Wadsworth holds that by careful technique uncontaminated specimens of secretion can be obtained from any portion of the uterus or vagina for examination, and diagnosis be quickly and readily made. It is only exceptionally that pathologic organisms are found in the vagina, and the apparent pathologic appearances here only suggest, with a variable degree of probability, the presence of such organisms. Bacteriologic tests only can decide. Exceptionally pathologic bacteria may live and maintain their virulence during pregnancy and labor. After labor their conditions, growth and maintenance are more variable and the puerperal uterus is more exposed and vulnerable, and in those cases where natural resources of the vagina have failed and bacteria are persistent energetic antisepsis is required. Ordinarily the douche does not insure sterility. This can only be secured by similar methods, with obvious qualifications, to those used for the skin and hands. The douche may even reduce the natural protective resources of the vagina, enabling pathogenic organisms to establish themselves, and it may also carry other organisms. Therefore, routine douching before and after labor is irrational. ineffective, and often dangerous. The alkaline secretion of the uterus, including the cervix, is free from bacteria, though organisms have been found in the cervical canal without exciting any apparent reaction. The pregnant and puerperal uterus is also usually free, though after the first few days of the puerperium organisms are more often present. Occasionally bacteria invade the uterus from other parts of the body. The pathologic reactions of bacterial growths are the result of either a toxemia or an infection, but apparently not all toxemias of the puerperium are bacterial. It is believed that changes in the exudate, blood clots, etc., may give rise to products which when absorbed produce intoxication. Their nature and virulence of the bacterial species may greatly influence the processes and lesions, while the contraction of the uterus may also have its influences on diseased conditions. The various forms of infection in the early stages, when proper treatment is available, can only be distinguished by bacterial examination. In toxemias not due to pathogenic organisms the results of uterine douching are immediate and effective and attended by little danger, but where pathogenic organisms exist the process may be exaggerated or disseminated. The danger of this is greatest in the first days of the puerperium when the exposed tissues and sinuses offer the least resistance. If bacteriologic examination establishes the presence of pathogenic bacteria in the uterus indications for radical operation may be more accurately determined early in the course of this process. The indications and contraindications for the various forms of curettage are practically the same as those for uterine douching. The use of antistreptococcic serum is irrational and ineffective, especially in cases where organisms other than streptococcus are often present. Practically the routine management of cases should be freed as far as possible from all procedures which interfere with the natural resources of the body, which in the vast majority of cases are sufficient protection against bacterial invasion. In a few exceptional cases requiring interference this should be determined and directed by bacterial examination.

128. **Alexander's Operation.**—The author's technique in shortening the round ligament is described in detail, his special points summarized as follows: "1. Make a clean-cut incision down to the aponeurosis of the external oblique muscle—reaching the aponeurosis rather to the inner side of the ring than directly over it, thus affording an easier recognition of your location. 2. Bear in mind the presence of the superficial fascia, and that its density varies from such a thinness as to be hardly recognized to one of such thickness as to be readily mistaken for the aponeurosis not yet reached. The fibers of the aponeurosis are in large bundles, all running in one way. Those of the superficial fascia are finer and more closely woven. 3. Expose to a clear view both pillars of the external abdominal ring when distinctly marked. If indistinct, as in small rings and in instances of dense intercolumnar fascia, expose clearly the anatomical position. With this in view the pillars and ring can be recognized by touch." In a note Brown says that he finds this operation described in Keith's work on "Operative Gynecology" (1900), with the exception of his cutting the nerve. He was not previously aware of Dr. Keith's method of operating.

131. **Ovarian Disease and Insanity.**—Hobbs' article is similar to his other published papers, attributing remarkable results to operations on the female genitals in the various forms of insanity.

132. **Cerebral Injuries During Birth.**—The extensive infantile mortality is attributed by Morse to compression of the skull or its contents during birth. This pressure may be from uterine contractions, either short in time or severe in character and of less severe character and more prolonged or by compression by instruments. He thinks that a child after delivery by forceps through a contracted pelvis has very little chance of life and if living is practically sure of being feebleminded or idiotic. Our strongest hope in such cases at the present time lies in symphyseotomy. He hopes in the future that the induction of premature labor in such cases will obviate the necessity of all destructive operations on the child and all cutting operations in the mother.

134.—See abstracts in THE JOURNAL of February 16, pp. 462 and 463.

135.—Ibid., p. 462.

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FOREIGN.

The Lancet, April 20.

Carcinomatous Stricture of the Duodenum. H. D. ROLLESTON.—The author first describes a case in which a carcinoma with columnar cells existed in the third section of the duodenum, where the mesentery crosses over it, producing stricture and carried the patient off. The diagnosis was at no time sufficiently positive to justify a laparotomy in a man so gravely ill. Rolleston describes the different forms of carcinoma of the duodenum according to the location: Carcinoma in the first part of the duodenum is rare. In the 40 collected cases it was affected alone in 8 and only with the second part in 5 more. It is exceptional that carcinoma of the pylorus extends in this direction. He says, however, practically the same clinical picture is seen in carcinoma of the pyloric end of the stomach. The commoner disease will generally be the one diagnosed. It is therefore called juxta-pyloric carcinoma of the duodenum, or another name is supra-ampullary carcinoma. It may develop on a former ulcer, as in the stomach, though since ulcer of the duodenum is usually situated in the first part, where carcinoma is rare, this can hardly be considered an important factor. The most frequent form of primary duodenal carcinoma is that in the second part of the duodenum. Of the 40 collected cases the growth was limited to the second part in 24, while in 5 others the first part was also invaded. If it occurs in the upper part of the second portion, above the liver or biliary papilla, it will give rise to much such symptoms as pyloric carcinoma, but if it involves the papilla, the flow of bile will be interfered with and jaundice or other complications arise, and if it is well below the biliary papilla it will give rise to obstruction with biliary vomiting. It has a special tendency to arise in the mucous membrane coverng the papilla, but this must be differentiated from carcinoma arising inside the papilla or in the ampulla of Vater. This preference of site is possibly due to some fetal displacement or intrusion of the epithelial cells during the development of the parts. An innocent papilloma is sometimes seen in this situation, and the author thinks that carcinoma may subsequently develop from such a growth. He thinks the possibility of impacted gall-stones having any causative effect seems improbable, though Dickinson has recorded the association of the two conditions. Carcinoma of the third part of the duodenum is the least frequent of all; in the 40 collected cases, not including the present one, it was only found in 3. The symptoms are those of intermittent obstruction, as in the case here reported. It thus resembles pyloric obstruction except for the presence of bile and pancreatic juice in the vomit, and their occurrence should at once suggest carcinoma, or gastric biliary fistula. The vomit should be tested for trypsin by seeing whether fibrin is digested in alkaline solution. In this way the diagnosis between the two conditions may be made.

When to Operate in Perforative Peritonitis. ARTHUR C. ROPER.—The four cardinal signs on which Roper depends for the diagnosis of perforative peritonitis are, for the first few hours after its occurrence: 1. Rigidity. 2. Tenderness. 3. The presence of fluid. 4. Free gas in the peritoneum. To these should be added pain and signs of collapse. If first seen several hours after the occurrence, there may be rigidity giving place to distension and immobility in respiration. Tenderness may be still present, though not so general. Free fluid is probably increased and neither feces nor wind have passed per rectum. This remarkable amelioration of symptoms may deceive even skilful men. The thing to do in the stage first described is to make the diagnosis, give anodynes and prepare for the operation. The diagnosis may be somewhat difficult. There is usually a history, but the appendix is usually the offending organ and we have here, as a rule, a particular tenderness at McBurney's point. In the second stage careful attention to the condition of the abdomen alone can save one from mistakes. Taking the temperature is of great importance because the absorption of pus or its toxins causes a well-marked rise. What we want to know is whether the appendix is perforated in a situation where adhesions will form and cause only local trouble, or whether there will be a general septic peritonitis. We also wish to know if the appendix is in its usual position since in rare cases it runs inward toward the middle line of the abdomen and over the peritoneum. The things to be looked for are: 1. The condition of the patient, the pulse, temperature and aspects. 2. The condition of the abdomen. 3. The presence or absence of swelling. Taking the second point first we should make sure whether distension has occurred and whether the peritonitis causing it is general or local. The first we can see at a glance, and percussion showing actual dulness on both sides would indicate that peritonitis is more than a local one and that fluids are accumulating in the general cavity. Ordinarily, however, dulness is first on one side. We must not infer, however, that peritonitis is necessarily general because distension is general, and if we find that contractile power is left in the bowel we infer that the general abdominal condition is not very bad. The presence of definite tumor without distinctive signs of pus in it is a relief. The pulse and temperature must be closely watched. In sthenic cases where the patient's face is flushed, he is alert and has no delirium, we can afford to wait, especially if we can feel a distinct swelling and the distension is not alarming, but it is just as well to be prepared and know just what we are awaiting. If, watching such a case, the temperature suddenly falls without improvement in the pulse, imme-

diate operation should be decided on, as it means sloughing of the appendix at least and may mean something worse. The asthenic cases are more serious, not those which are moribund where nothing can be done, but where there is profound disturbance, pale or sallow complexion, and rapid, small, compressible pulse and only a small rise in temperature and any evidences of septic poisoning, we should arrange for immediate operation, but Roper specially suggests that he does not operate during shock, as he does not wish to add the shock of operation to that already existing. He would prefer to rally the patient with opiates and stimulants. As regards opiates, he prefers opium to morphin, which he thinks is more of a bowel paralyzer. If possible, he makes the diagnosis before giving opiates. If that can not be done he gives opiates and sees the patient again in four to six hours. In a case of gastric perforation four hours is too long to wait. While making sure of the seat of trouble one would be doing right in insisting that no opiates be given except in the physician's presence until he has arrived at the diagnosis.

Causation and Treatment of Profuse Epistaxis in People Beyond Middle Age. GEORGE COATES.—Five cases of profuse epistaxis in elderly people are described by Coates, who discusses the causes. In all these cases the sequence of events which led up to epistaxis was generally alike: 1. Long continued high arterial pressure. 2. Some sudden cardiac failure, such as the giving way of the valves or loss of power of the cardiac wall. 3. Over-filling of the whole venous system, the weakened heart not being able to sufficiently empty engorged veins against the high arterial pressure due to contracted arterioles. 4. Leakage of the over-filled veins. He says the proper method of treatment of these cases is to empty the overfilled veins. If we can relax the walls of the arteries and help the enfeebled heart this should be done, but this is impossible by giving heart tonics at first. Nitroglycerin is quite effective; nitrite of amyl might be more so. He says: "Finally, by recognizing profuse epistaxis as a symptom of a sudden though mostly temporary heart-failure, there is no danger of commencing valvular disease being overlooked and the patient being considered as one who only requires a little surgical treatment. In some cases it is possible that the alteration in the circulation causing the epistaxis may also cause cerebral symptoms, but here, again, the cerebral symptoms are mostly not the cause or the result of the epistaxis but only the result of the circulatory conditions leading to the epistaxis."

Journal of Laryngology, Rhinology and Otology, March.

Atresia Auris Congenita. HUNTER TOD.—Three cases are reported and illustrated; two in which there was bilateral deformity and the third unilateral with very slight auricular deformity. This generally accompanies these cases and is attributable to arrest of development. Congenital aural fistula is rare, only four cases being found; it is much more frequent in normal ears, and auricular appendages are almost as rare. The hearing power is rarely entirely destroyed; complete deafness is exceptional. In some cases the hearing power is found to be increased if the mouth is kept open. He speaks decidedly against the value of operation and sums up his conclusions briefly as follows: "1. The deformity is not hereditary, and the cause is not known. 2. It occurs rather more often in females, and is more often unilateral than bilateral. 3. One may get accompanying deformities, chiefly due to maldevelopment of the parts in connection with the first and second branchial arches. 4. The labyrinth is rarely affected. The hearing varies, but is present to some extent, though slight. Hearing-tests give practically the same results as those in an uncomplicated middle-ear affection, but more marked. 5. Embryological, pathological, and clinical observations prove operation to be useless. 6. Something more, perhaps, can be done by careful non-operative treatment and by early and assiduous instruction in speaking and lip-reading.

Bulletin de l'Academie de Medecine (Paris), April 2.

Four Cases of Cured Glioma of the Retina. LAGRANGE.—The first patient was a boy of 2½, and the tumor on removal proved to be a neuro-epithelioma. The papilla was completely included in the process, but the lamina cribrosa formed a barrier behind, beyond which it did not pass. The cure has persisted seventeen months to date. In the second case there has been no recurrence during the 2½ years that have elapsed since the ten-months' babe was operated on. The optic nerve was not involved. The retina was completely detached from the choroid coat and the gliomatous masses had proliferated on the external surface of the retina. The choroid and iris were intact. The glioma seemed to have developed from the outer granular layer while the inner layer was normal. The third case was in retrogression when first seen, cured by enucleation in January, 1900. The choroid was not involved in the tumor, which proved to be a glioma, the generic term applied to all embryonal neoplasms of the retina, although in this case the tumor was closely allied to an epithelioma or angiosarcoma, retrogressing into a fasciculated fibroma. The child was 6 years old, which confirms the assumption that glioma of the retina is less malignant the older the child. The fourth case was a traumatic endophytic glioma in a girl of 9. The entire retina was involved in the process and the posterior portion of the vitreous contained fibrils infiltrated with altered retinal cells. The tumor developed from the inner granular layer. The child has been cured for more than a year.

Prophylaxis of Tuberculosis. LANCEREAUX.—Reviewing 2192 cases of tuberculosis in his service Lancereaux finds that alcoholism was evident in 1229, and he also notes that 853 out of 1984 chronic drinkers were tuberculous. He mentions that the tubercular localization was in the right apex in the great majority of cases, and that the lobular or caseous form predominated over the granular. In his entire experience he was able to find only 46 cases in which contagion was manifestly the cause of the tuberculosis, and only 93 in which hereditary influences seemed to be a factor. Next to alcoholism, an insufficient supply of air is the most potent factor in the evolution of tuberculosis, and Lancereaux concluded his address urging legislation to prevent overcrowding, by more stringent building regulations.

April 9.

Mineral Composition of the Human Fetus. HUGOUNENQ.—*During the first six month of pregnancy mineral elements* enter very little into the composition of the fetus. In the last three months, however, such an amount of mineral substances is taken up that at birth the fetus takes away from the maternal organism as much as 100 gm. of mineral elements. This includes .268 gm. to .294 gm. of metallic iron, of which probably 50 to 60 per cent. is in the form of hemoglobin. Most of the balance is stored in some organ, as has been determined on other mammals, probably to compensate for the insufficiency of iron in the maternal milk. With the exception of the mineral elements required for the blood and bones, the other mineral constituents are practically in the same proportion at all stages of fetal life. The research on which these assertions are based included incineration of the cadavers of eight fetuses or new-born infants.

Bulletin de la Soc. d'Electrotherapie (Paris), March.

Tardy X-Ray Burns. OUDIN.—This writer has had occasion to observe three cases in which, five or six months after exposure to the *x*-rays, evidences of injury became manifest. The lesions presented the same appearance and also the slow evolution of the severe burns that have been noted, commencing on an average two weeks after the exposure. In one of the patients there was slight immediate pigmentation, but the burn developed on the opposite side of the abdomen, under the influence of a trifling traumatism—an injection of serum. In the third case, six months had elapsed after exposure, with no evidences of a lesion, when under the influence of a local hot douche—not hot enough to burn—the vast, characteristic ulceration commenced and progressed. These facts have convinced Oudin that the *x*-ray burn is a secondary trophoneurosis, analogous to mal perforans or decubitus acutus and the cutaneous affections described by Charcot as hysteric ulcerations. An ulceration on the mamma, which appeared in a young hysteric in consequence of a violent emotion, and persisted for months rebellious to all treatment, resembled in every respect the tardy *x*-ray burn on the mamma of Oudin's first patient.

In some of the *x*-ray burns he has examined, the patients had noted pains along the nerve supplying the region. The lesions in some cases followed the nerve, instead of being limited to the parts exposed.

Presse Medicale (Paris), April 13.

Typhoid Pyonephrosis.—Garnier and Lardennois.—Only three cases of actual pyonephrosis of typhoid origin have been observed in France. Garnier reports a fourth case. Pains in the left hypochondrium were a noticeable feature of a moderate case of typhoid fever, in a man 31 years of age. They persisted after defervescence and were occasionally accompanied by an intense, transient, febrile paroxysm. A month later the pains became more severe and they sometimes radiated from the lumbar region to the testicle, simulating nephritic colic, the attacks terminating with the expulsion of a few thick clots of pus containing the typhoid bacillus. Pus was still evident in the urine after an extensive nephrotomy, and the pains and continuous remittent fever persisted with occasional febrile exacerbations. The kidney was removed and found large, nodular and dotted with abscesses. The patient died in progressive cachexia and the other kidney was found in much the same condition. The pyonephrosis induced by typhoid bacilli may affect the entire kidney or may be limited, but it can scarcely be differentiated until convalescence commences. Pains in the lumbar region, tumefaction of the kidney and intermittent pyuria are the principal symptoms, although the latter may be absent. Nephrotomy should be done early and the organ extensively opened. This operation may prove sufficient if all the pockets can be evacuated. It answers the need of the moment and allows the functions of the other kidney to be tested. If the affection progresses and the other organ is intact, an early secondary nephrectomy is urgent.

Revue de Chirurgie (Paris), April.

Physiologic and Cytologic Study of Hemothorax. T. Tuffier and G. Milan.—The increase in the size of the effusion which becomes evident toward the fifteenth day, is not due to the continuation of the hemorrhage but to a serous exudate. It is not. therefore, an indication for operation. Neither is the fever an indication for surgical intervention when it is moderate, as it is not of microbian origin but purely dynamic and due to absorption. Persistence of polynuclear cells in the effusion after the 25th day, however, is suggestive of suppuration. The latter may also be suspected in case the polynuclear cells, instead of diminishing daily, increase in numbers or remain stationary. By that time they ought to be less numerous than the lymphocytes and mononuclear cells. The correct treatment of traumatic hemothorax is capillary puncture about the fifteenth day, at the moment when the blood is sufficiently diluted and the pulmonary wound sufficiently cicatrized to prevent a new hemorrhage when the pressure is removed from the lung. One case of moderate, aseptic hemothorax from which the above deductions were made is described in detail. The corpuscles in the effusion remain alive and are reabsorbed into the circulation, the serous effusion diluting the blood and preventing coagulation.

Hydatid Cysts in the Argentine Republic. H. Vegas and D. J. Cranwell.—The Argentine Republic is one of the countries in which hydatid cysts are most prevalent. The general mortality therefrom is about 11.11 per cent. Marsupialization and drainage are slow but by far the surest method of treatment. Extraction of the germinal membrane with suture without drainage is exceptionally indicated in cerebral or external cysts when extirpation is impossible on account of adhesions. The writers' experience includes 952 cases. In 27, several organs were affected at once; in 641 the liver, in 54 the lung; in 15 the brain; in one each the mediastinum, mamma and thyroid body, and in 4 the bones. Most of the cases occur in the province of Buenos Ayres.

Experimental Study of Fractures of the Upper Jaw. R. Lefort.—The extensive and arduous experimental research reported in this article establishes the fact that severe fractures of the bones of the face are subordinate to certain very simple laws and can be classified in a certain number of well-defined types. Knowledge of these types will singularly facilitate the investigation and exact diagnosis of fractures which too frequently are overlooked, to the detriment of the patient and sometimes also of the surgeon. These types are described in detail and profusely illustrated in Le Fort's article, commenced in the February number of the *Revue*.

Primary Tuberculosis of the Parotid Gland. P. Lecene.—The case described is the ninth on record of a primary tuberculosis of the salivary glands. The symptoms usually indicated a mixed tumor; occasionally facial paralysis suggested a malignant neoplasm. In others the affection was diagnosed as tubercular adenitis. Even after the operation, the diagnosis was possible in some cases only under the microscope. Total extirpation is the only treatment whenever possible, but the facial nerve must be spared. All the parts involved must be removed and with the curette this usually can be done without injury to the facial nerve or the vessels.

Centralblatt F. Chirurgie (Leipsic), April 6.

Treatment of Irreducible Luxations of the Lower Jaw. Kramer.—Instead of resection in cases of severe and irreducible dislocation of the lower jaw, severing the stretched muscles will sometimes bring the jaw into place without further trouble. In a case described, after dividing the masseter and external pterygoid muscles and the external lateral ligament, the luxation was corrected without trouble.

April 13.

A Magnesium Murphy Button. V. Chlumsky.—A small ball of perfectly pure magnesium introduced into the stomach or intestine becomes corroded in two, and disappears entirely in eight to sixteen days. An intestinal button of magnesium, on the pattern of the Murphy button, is completely dissolved in eight to ten days after a gastroenterostomy, if the patient is given a little weak solution of hydrochloric acid to hasten the process. Owing to its absorbability the button can be simplified, much to its advantage. Chlumsky states that his experiences on patients and dogs confirm the superiority of this magnesium button over the original appliance.

Muenchener Med. Wochenschrift, April 9.

Transfusion of Animal Blood in Therapeutics from a New Point of View. A. Bier.—The many severe symptoms that follow the transfusion of animal blood have caused the rejection of this measure as inevitably dangerous, but Bier has been studying these symptoms and finds that they are all characteristic of the invasion of the organism by an infectious agent. The blood-corpuscles of the heterogeneous blood evidently act like foreign bodies which the vital energies of the organism rally to repel, and thus an actual "aseptic infectious disease." as he calls it, is produced by the transfusion. It is followed by a chill, fever, sweat, possibly albuminuria and hemoglobinuria; the foreign corpuscles are agglutinated and dissolved, like bacteria, and the spleen becomes enlarged. Afterward, in the same way as during convalescence from an acute infectious disease, metabolism is stimulated and the appetite increased. The idea occurred to him that these phenomena and processes might be utilized for therapeutic purposes. The alteration in the composition of the blood might possibly confer bactericidal power on it, and the sudden, intense, transient hyperemia, the subsequent, protracted, serous saturation of the internal organs and the skin, and the augmented metabolism and appetite, could not fail to benefit certain chronic, sluggish, infectious processes by giving them a general shaking-up, as it were, and thus allowing the recuperative forces of the organism a chance to work. Experiences with certain drugs suggest the possibility that the changes induced might be most pronounced at the point of the morbid processes. Reasoning from these premises Bier applied the transfusion of difibrinated lamb's blood as a therapeutic measure in eleven cases of advanced, incurable tubercular affections. The amount injected at a time ranged from 4 to 20 c.c., never enough to cause more than a trace of albuminuria. All the patients mentioned that their faces felt as if they would burst. They were informed that they would experience transient swelling and flushing of the face, pains, chills, fever, etc., and that these symptoms were part of the treatment. The appetite returned after a single injection and became ravenous in nearly every case. The fever did not cause lassitude; the patients felt well and enjoyed their meals even while it lasted. The lamb's blood was injected in a vein of the arm, the aperture in the needle eccentric to the point. One case is reported in detail, the patient a young carpenter with extensive open tuberculosis of the sacro-iliac symphysis on both sides. The first four injections—a total of 55 c.c. in five days—failed to cause any symptoms of intolerance for two days, then urticaria developed all over the body, lasting for three days. Ten days after the last injection 10 c.c. were transfused, the ordinary train of transfusion-symptoms developed and with them a ravenous appetite. The transfusion was repeated about 12 times in the course of four months. Patient gained in weight and the extensive, bilateral suppuration in the pelvic abscesses and fistulæ became nearly dried up, while the patient was able to be up and about without discomfort. One day 2.5 c.c. were injected followed as usual by transient dyspnea, backache and burning of the face. The same amount was injected as these symptoms subsided, followed by slight pains. Then 5 c.c. were injected and caused no disturbance, and an additional 10 c.c. induced merely slight dyspnea. A total of 20 c.c. blood was thus transfused in twenty-five minutes, and after the first portion caused no disturbances. This suggests that the dissolving substances in the patient's blood were used up by the first small amount of blood transfused. Four cases of lupus showed such prompt and remarkable retrogression of the lesions after systematic transfusion that Bier remarks he would call them cured if it were not for the disappointments that followed the alleged cures with tuberculin. He has also been testing this measure in cases of inoperable malignant neoplasms and promises some interesting communications when his observations are completed. One case of acute sepsis, and another of pyohemia, both very grave, were not influenced by the injections and succumbed to the progress of the disease. As lamb's blood is the least toxic, Bier suggests that the effect might be enhanced by using the blood of other animals.

Multiplicity of Primary Malignant Tumors. NEHRKORN.—Several cases of multiple carcinomata have been observed at the Heidelberg clinic. In one there was a carcinoma on the temple, another over the orbit and a third behind the ear. In a second patient two carcinomatous nodules a few centimeters apart developed on one temple. In a third a carcinoma had developed on the ear subsequent to chronic eczema and otitis, while an adenoma developed on the lip. Another patient was recently operated on and a carcinoma of the mamma removed at the same sitting with an adenoma of the uterus. Schiller published recently a case in which a spindle-celled sarcoma of the epiglottis coincided with an epithelioma of the tongue. The latest case observed by Nehrkorn was that of a woman of 59. A melanosarcoma of the rectum was removed and a carcinoma of the uterus at the same time. The patient died and the autopsy showed numerous sarcomatous metastases of the viscera. He concludes from his experience and that of others that multiple carcinoma-formation has been established in a few special cases. Usually it seems to be a mere coincidence.

A New Point of View for the Treatment of Whooping-Cough. G. SPIESS.—The causal agent of whooping-cough induces an irritation in the throat which causes the coughing by reflex action. If the lining of the throat could be rendered insensible, the reflex action would not be induced. The anesthetic effect of cocain is transient, but orthoform is a substance which induces a hypoesthesia sufficient for the purpose and lasting several hours. Spiess therefore treats whooping-cough by insufflating orthoform with a bulb powder pump, the patient inhaling as the powder is blown into his throat. The relief is immediate, and infants and children make no resistance to the measure as they learn that it is painless. It is also beneficial in certain other affections of the upper air-passages.

April 16.

Acute Serous Meningitis. J. HEGENER.—The number of cases of acute serous meningitis on record is still very small. The affection is differentiated by the complete recovery after evacuation of the excess of cerebrospinal fluid, although the symptoms may have indicated severe purulent meningitis. Hegener recently operated on two patients with symptoms of pressure on the brain complicating an old and severe disease of the middle ear, retarded pulse, headache, optic neuritis, etc. All the threatening symptoms vanished after opening of the subarachnoid space and the gradual oozing of a large amount of serous fluid. In one case the parts involved in the ear affection had all been removed except the diseased labyrinth in which no pus was found. It healed completely and spontaneously, after the escape of the serous fluid. In one of the cases optic neuritis appeared nine days after the incision in the subarachnoid, and subsided four weeks later. If lumbar puncture had been done instead of the subarachnoid incision and subsequent continuous drainage, it would have been necessary to have repeated it several times in one case, as the symptoms of pressure on the brain did not entirely subside until after eight days.

Tuberculosis a Toxicosis. E. KLEBS.—It has been established that market butter may contain tubercle bacilli. Klebs asserts that it may also contain the toxins of the tubercle bacilli and describes various experiments which indicate such to be the case. He considers his personal experience suggestive in this respect. He was spending the summer in a healthy Swiss village when he noticed that an ulcus cruris and eczema of the hands, from which he had suffered ten years previously, had recurred with their pristine intensity, although no external agents could have irritated them. He finally traced their origin to the unusually large quantities of butter he was eating, made up his mind that they were tubercle bacilli toxins, and cured them with his "tuberculocidin" which neutralizes these toxins. Experiments on guinea-pigs showed that the butter contained a virulent toxin which killed the animals with the characteristic lesions and hypothermia characteristic of tubercular toxins. He is convinced that tuberculosis, besides being an infectious disease, is at the same time a toxicosis.

Treatment of Rhachitis with Suprarenal Substance. M. HOENIGSBERGER.—Suprarenal extract has no influence on rhachitis except as a measure that benefits the health in general. It accomplishes the latter by raising the blood pressure by its vasoconstricting action on the vessels, and by its retarding and regulating action on the heart and pulse owing to its action on the vagus centers.

Rinsing Out the Stomach in Children. I. STEINHARDT.—The general practitioner is urged to make more frequent use of lavage of the stomach in the gastro-intestinal disorders of infancy. The technique is simple; it can do the child no harm and is indicated in all cases of acute digestive disturbances in small children rebellious to the ordinary measures. In nearly every case more or less marked improvement is the prompt result.

Treatment of Gout with Quinic Acid. SALFELD.—Quinic acid seems to possess the property of dissolving or transforming the deposits of uric acid in genuine gout so that they subside or are eliminated with no trouble to the organism. A combination of quinic acid and piperazin has been tested by Salfeld on several patients, and he is much impressed with its therapeutic value. It has no effect on articular rheumatism and is thus an excellent differentiating medium.

Treatment of Fibrinous Pneumonia. HORNUNG.—The points emphasized in this communication are the danger of alcohol in any form in pneumonia, as it has the same paralyzing effect on the vasomotor centers as ether and chloral and the pneumococcus toxin itself, while it is of the utmost importance to keep these vasomotor centers intact. Another point emphasized is the benefit to be derived from faradization of the thorax with a rolling massage-electrode. The constant interruption of the current exerts a kind of massage on the cells which materially stimulates the circulation and hence relieves the heart. The electrization is grateful to the patient and has never failed in Hornung's experience, even in the severest cases of disturbed compensation.

Wiener Klinische Rundschau, April 7.

Etiology of Delirium Tremens.—A. ELZHOLZ.—It is probable that the excessive use of alcohol generates in the body a toxic substance, analogous to the toxins of the pneumococcus or other infectious agents. Elzholz is inclined to believe that alcohol is itself the antidote for this metabolic toxic substance. If the alcohol is suspended or an insufficient amount ingested, then the toxic action has full sway and the clinical picture of delirium tremens results. He calls attention to a symptom of delirium tremens which has been hitherto overlooked. It indicates that the toxic substance generated has an influence on the eyes—possibly also on other mucous membranes. He has found a catarrhal affection of the conjunctiva accompanying delirium tremens in more than 50 per cent. of his cases since he began to look for it a few years ago. It may be very slight or may attain the proportions of a muco-purulent conjunctivitis, but in every case it vanishes with the termination of the attack of delirium tremens. No complications on the part of the eye accompanied it in any case. He cites an instance in which an incipient attack of delirium tremens was arrested by a pint of rum which the patient drank just before he was taken to the hospital. There was no delirium for two days after his admission, when it again burst forth with renewed energy. The alcohol proved an antidote for the toxin and annulled its influence, but when the effect of the alcohol passed off the delirium recurred.

Congenital Stenosis of the Pylorus in Infants. A. KOEPPEN.—This condition should be called a "cramp of the pylorus," rather than stenosis, and is a nervous phenomenon on an inherited nervous soil. The treatment should be the strictest hygienic-dietetic measures from the first indications of the trouble. Medicines do little good, as narcotics can not be given in amounts sufficient to ensure a permanent effect, and as purgatives merely serve to increase the cramp. Koeppen has never derived any benefit from lavage of the stomach, but recommends the application of dry heat to the abdomen, possibly with a thermophor or hot flannel cloths. The child is then fed, and held in an upright position until eructation occurs, which may require fifteen minutes or even longer. The food should contain very little casein, little sugar and not much fat, in order not to favor the tendency to cramp. All mixtures of cow's milk are injurious on account of the proportion of casein. When careful supervision of the food, etc., and the course of the trouble, show the impossibility of even a minimal absorption of food, then the little patient should be operated on as a last resort, without waiting for or even enquiring as to the degree of the stenosis or the extent of the hypertrophy. Gastro-enterostomy is the only operation that prevents a recurrence of the trouble as it removes the foundation for the injurious consequences of the congenital, local constitutional anomaly to which the cramp of the pylorus is due in these cases. This article was commenced in No. 9.

Alcoholism in Childhood. M. KASSOWITZ.—The writer of this communication, which was presented at the International Anti-Alcohol Congress, states that he and others have known instances of epilepsy, delirium tremens, dropsy, etc., in children follow the continued use of alcohol, not only when ingested in excessive amounts but also frequently after the moderate use of wine or beer and even after the small doses of brandy which are considered by many persons as not only harmless but directly beneficial. These experiences testify to an abnormal susceptibility on the part of the childish nervous system and organism to the effects of alcohol. The depressing influence of alcohol on the child's capacity for study has also been directly demonstrated.

April 14.

Hemorrhage After Operations on the Tonsils. SEIFERT.—In the two cases of angina phlegmonosa described, the incision was followed by violent hemorrhage, but Seifert arrested it by plugging the wound with cotton or gauze. The tampon was left over night and definitely checked the hemorrhage in one patient. In the other the flow of blood was renewed when the tampon was removed. The wound was irrigated with an antiseptic solution and the tampon replaced, with no further disturbance. Tamponing the wound is a simple and effective measure for arresting post-operative hemorrhage from the tonsils, if skillfully performed, and renders ligature of the external carotid unnecessary.

Wiener Klinische Wochenschrift, April 4.

Injections of Paraffin for Prolapse. HALBAN.—In four cases of cystocele Halban injected a half ring of paraffin between the wall of the vagina and the bladder in order to form a kind of a pessary to prevent the prolapse. He injected about 20 to 25 c.c. and inserted a pessary for twenty-four hours to make the paraffin cool in the desired shape. The results have been extremely satisfactory.

St. Petersburger Medicinische Wochenschrift, March 19.

The Growing Old of the Heart. K. DEHIO.—As the blood-vessels grow old, the changes in their structure cause corresponding functional and anatomic changes in the heart. It increases in size and weight to enable it to keep pace with its increased task, but at the same time the circulation is retarded, keeping the pulse slow. Dehio describes a simple apparatus with which he tested the power of the heart to respond to extra tasks. The foot is fastened to a weight hanging from a pulley on a post at the foot of the bed. Drawing up the leg raises this weight of 4000 gm. to a height of 40 cm. Young and healthy persons could do this fifty times a minute with no apparent effect on the heart's action, which remained rhythmical and even, although the pulse was 114 to 120 and the limb much fatigued. Less robust persons wearied in six minutes and the pulse rose to 132 or 140, but the heart's action was regular. Elderly persons, on the other hand, found it impossible to keep up the exercise more than a few minutes on account of dyspnea, palpitations or excessive sweating, but at the same time the pulse persisted slow, the beat ranging from 76 to 102, arrhythmic in several cases. The heart is incapable of accelerating its beat as occasion demands, as is possible in the young and healthy. The contractions are less frequent and there is less volume to the beat owing to the diminished automatic energy. The latter is due principally to the myofibrosis to which Dehio has previously called attention. The essence of this process is a disappearance by atrophy of the muscle fibers of an originally primarily hypertrophied heart, and the substitution of the atrophied muscle fibers by interstitial connective tissue.

Queries and Minor Notes.

"CHRISTIAN SCIENCE" UNIVERSITY.

CAVE SPRINGS, GA., April 19, 1901.

To the Editor:—Is there, or was there, eight or ten years ago, a legal medical college or medical department of a university known as the "Christian Science University of Chicago?" If there is or was such, can its graduates practice in Georgia. I. S.

ANS.—We have never heard of the institution, and we doubt very much whether its graduates could practice in Georgia under present laws. According to a recent decision of Judge Lumpkin, of Atlanta, editorially commented upon in the *Savannah Press*, no one not regularly graduated from a medical college can legally practice there.

SURGEONS ON OCEAN LINERS.

BART, ME., April 23, 1901.

To the Editor:—To whom should one apply for a position as Surgeon on an ocean liner? What is the average salary such positions offer and the general requirements for applicants?

H. B. H.

ANS.—Appointments on ocean steamers are made by the officials of the company, to whom inquiries should be addressed. The requirements are usually five years of practice or its equivalent in hospital experience. In British steamers British qualifications are necessary. Usually the salary is small, but there are often certain perquisites, head-money, etc., which will increase it perhaps to something like $100 a month.

SECRETARIES OF HEALTH BOARDS.

SAC CITY, IOWA, April 27, 1901.

To the Editor:—Please favor me with a list of the secretaries of the state boards of health of Michigan, Nevada, South Dakota, Wisconsin, New Mexico, California and Texas. L. E. M.

ANS.—Michigan: Dr. B. D. Harison, Sault Ste. Marie. Nevada:

Dr. S. L. Lee, Carson City. South Dakota: Dr. A. E. Clough, Madison. Wisconsin: Dr. H. M. Ludwig, Richland Center. New Mexico: Dr. T. P. Martin, Taos. California: Dr. C. C. Wadsworth, 1104 Van Ness Ave., San Francisco. Texas: Appointment not yet published.

OSHKOSH, WIS., April 25, 1901.

To the Editor:—Please give the names and addresses of the secretaries of the state medical boards of examining surgeons for Michigan and Indiana. A. B. C.

ANS.—For Michigan, see above. The secretary for Indiana is Dr. W. F. Curryer, Indianapolis.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., April 18 to 24, 1901, inclusive:

Charles N. Barney, contract surgeon, detailed a member of an examining board at Fort Monroe, Va., to relieve Captain F. R. Keefer, asst.-surgeon, U. S. A.

George E. Bushnell, major and surgeon, U. S. A., leave of absence granted.

Thomas C. Chalmers, major and surgeon, Vols., recently appointed, to report at San Francisco, Cal., for transportation to the Division of the Philippines.

William H. Corbusier, major and surgeon, U. S. A., member of a board in New York City, N. Y., to investigate the suitability of the transport *Terry*, for service as a hospital ship in the Philippine Islands.

William D. Crosby, major and surgeon, U. S. A., member of a board in New York City, N. Y., to investigate the suitability of the transport *Terry* for service as a hospital ship in the Philippine Islands.

Charles R. Gill, captain and asst.-surgeon, Vols., sick leave granted.

Leonard K. Graves, captain and asst.-surgeon, Vols., recently appointed, leave of absence granted.

George P. Heard, contract surgeon, from Birmingham, Ala., to post duty at Fort McPherson, Ga.

Willis J. Raynor, captain and asst.-surgeon, Vols., recently appointed, leave of absence granted.

Milton Vaughan, captain and asst.-surgeon, Vols., recently appointed, from the Department of Cuba, via San Francisco, Cal., to the Division of the Philippines.

Franklin F. Wing, contract dental surgeon, from Washington, D. C., to San Francisco, Cal., en route for service in the Division of the Philippines.

PROMOTIONS AND APPOINTMENTS, ETC., OF ARMY MEDICAL OFFICERS, REGULARS AND VOLUNTEERS.

The following promotions, retirements and deaths in the Medical Department, U. S. A., and appointments to positions as surgeons and asst.-surgeons, U. S. Vols., have been recorded in the Adjutant-General's Office, War Department, Washington, D. C., from March 15 to April 15, 1901. The appointments, etc., up to March 15, consequent on the passage of the army reorganization bill of February 2, 1901, were published in THE JOURNAL of April 6, last:

Regular Army, Promotions.—Captain W. B. Banister, asst.-surgeon, to be surgeon with the rank of major, April 2, 1901.

Regular Army, Retirements.—Colonel A. A. Woodhull, asst.-surgeon-general, April 13, 1901, by operation of law, act of June 30, 1882; Captain Jefferson D. Poindexter, asst.-surgeon, with the rank of major, April 13, 1901, for disability incident to the service.

Regular Army, Deaths.—Major William R. Hall, surgeon, April 2, 1901, at Manila, P. I.

Volunteers, Appointments.—The following captains and asst.-surgeons, U. S. A., to be surgeons with the rank of major: George D. De Shon, March 14, 1901; William F. Lippitt, jr., March 21, 1901; James M. Kennedy, March 21, 1901; James S. Wilson, March 27, 1901; Ogden Rafferty, April 6, 1901; Charles F. Mason, April 9, 1901; James D. Glennan, April 9, 1901; Thomas U. Raymond, April 9, 1901; also Captain Edward A. Romig, assti-surgeon 40th Infantry, March 28, 1901, and Frederick A. Washburn, Jr., of Massachusetts, March 28, 1901.

To be asst.-surgeons with the rank of captain: James G. McKay, of Pennsylvania, March 13, 1901; Thomas W. Jackson, of Pennsylvania, March 15, 1901; William Alden, of Massachusetts, March 15, 1901; Willis J. Raynor, of Colorado, March 22, 1901; William B. Summerall, of Georgia, March 21, 1901; Thomas K. Mullins, of Alabama, March 21, 1901; Ernest K. Johnstone, of California, March 19, 1901; Julius A. Escobar, of New York, March 19, 1901; Frederick, A. W. Conn, of Pennsylvania, March 23, 1901; Simon J. Fraser, of California, March 23, 1901; Reuben M. Bonar, of Ohio, March 27, 1901; Wharton B. McLaughlin, of Texas, March 28, 1901; Thomas T. Jackson, of Texas, March 28, 1901; James W. Madara, of Kentucky, April 2, 1901; Milton Vaughan, of Arkansas, April 2, 1901; Nelson Miles Black, of Wisconsin, April 3, 1901; William O. Cutliffe, of New York, April 6, 1901; George B. Lawrason, of Louisiana, April 6, 1901; Albert H. Eber, of Michigan, April 4, 1901; James B. Cutter, of California, April 11, 1901; William H. Block, of Maryland, April 11, 1901; Robert E. Williams, of California, April 11, 1901.

Volunteer Promotions.—Captain Samuel C. de Krafft, asst.-surgeon, 28th Infantry, to be surgeon with the rank of major, March 26, 1901; Lieutenant Albert H. Eber, asst.-surgeon, 30th Infantry, to be asst.-surgeon, with the rank of captain, March 1, 1901; Lieutenant John C. Greenewalt, asst.-surgeon, 33d Infantry, to be asst.-surgeon with the rank of captain, March 30, 1901; Lieutenant H. Brookman Wilkinson, asst.-surgeon, 34th Infantry, to be asst.-surgeon, with the rank of captain, Feb. 28, 1901; Lieutenant George L. Hicks, Jr., asst.-surgeon, 38th Infantry, to be asst.-surgeon, with the rank of captain, Feb. 20, 1901; Lieutenant Harold L. Coffin, asst.-surgeon, 39th Infantry, to be asst.-surgeon, with the rank of captain, March 31, 1901. [illegible]

Volunteers, Honorably Discharged on Account of the Mus of Their Regiments.—Major Francis A. Winter, surgeon, 37 fantry, Feb. 20, 1901; Captain Thomas B. Anderson, asst.-su 37th Infantry, Feb. 20, 1901; Major Ogden Rafferty, surgeon Infantry, April 1, 1901.

Navy Changes.

Changes in the Medical Corps of the navy, week ended Apri

Asst.-Surgeon J. B. Dennis, detached from the Naval Aca and ordered to the *Chesapeake*, May 2.

Asst.-Surgeon C. G. Smith, ordered to the *Vermont*, April 2

Medical Inspector F. Rogers, ordered to the *Brooklyn*, for as fleet surgeon of the Asiatic Station.

Surgeon W. F. Arnold, detached from duty at Olengapo, P. ordered to the *New Orleans*.

Surgeon C. F. Stokes, ordered to the Cavite Naval Stat await the *Solace*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commis and non-commissioned officers of the U. S. Marine-Hospital S for the seven days ended April 25, 1901:

Surgeon F. W. Mead, department letter of January 1 granting leave of absence for sixty days, amended so th leave shall be for one month and twenty-four days.

Surgeon A. H. Glennan, to proceed to Tallahassee, Fla., cial temporary duty.

Surgeon W. P. McIntosh, to proceed to Ducktown, Ten special temporary duty.

Surgeon W. J. Pettus, department letter of January 1 granting leave of absence for two months, amended so t leave shall be for one month and twenty-seven days.

P. A. Surgeon C. P. Wertenbaker, to represent the service ing of Texas Medical Association, Galveston, Texas.

P. A. Surgeon J. A. Nydegger, to proceed to Cape Charles Va., for special temporary duty.

P. A. Surgeon H. S. Mathewson, to proceed to Ponce a nilla, Porto Rico, for special temporary duty.

Asst.-Surgeon W. W. King, to proceed to Guayanilla, Por for special temporary duty.

A. A. Surgeon L. P. Gibson, granted leave of absence f days.

A. A. Surgeon J. C. Rodman, granted leave of absence days from April 24.

Hospital Steward Mark H. Watters, relieved from dut cago, and directed to proceed to St. Louis, Mo., and repo medical officer in command for duty and assignment to qu

Health Reports.

The following cases of smallpox, yellow fever, cholera have been reported to the Surgeon-General, U. S. Mar Service, during the week ended April 26, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

Delaware: Newcastle, April 1-15, 4 cases.
Florida: Jacksonville, April 13-20, 6 cases.
Illinois: Chicago, April 13-20, 17 cases.
Kentucky: Cynthiana, April 17, 6 cases; Lexington, April 4 cases.
Louisiana: New Orleans, April 13-20, 10 cases, 1 death.
Minnesota: Winona, April 13-20, 2 cases.
New Hampshire: Manchester, April 13-20, 7 cases.
New Jersey: Jersey City, April 14-21, 4 cases.
Ohio: Cincinnati, April 12-19, 7 cases; Cleveland, April 13 cases.
Pennsylvania: April 13-20, Pittsburg, 1 case; Steelton, 3 cases
Tennessee: Nashville, April 13-20, 1 case.
West Virginia: Wheeling, April 13-20, 1 case.
Philippines: Manila, March 2-9, 8 cases.
Porto Rico: San Juan, April 6, 13 cases.

SMALLPOX—FOREIGN.

Austria: Prague, March 23-April 6, 8 cases.
Belgium: Antwerp, April 6, 3 cases, 1 death.
China: Hongkong, March 2-9, 6 deaths.
France: Paris, March 31-April 6, 10 deaths.
Gibraltar: April 1-7, 2 cases.
Great Britain: England—Southampton, April 6-13, 3 cases. Sco land—Glasgow, April 6-13, 5 deaths; Leith, March, 31-April 6, case.
India: Bombay, March 19-26, 12 deaths; Calcutta, March 16- 144 deaths; Karachi, March 9-16, 12 cases, 8 deaths; March 16-22, 10 deaths.
Mexico: Progreso, March 31-April 6, 4 cases; Yucatan, Mer April 11, prevalent.
Netherlands: Rotterdam, March 31-April 6, 1 case.
Russia: Odessa, March 31-April 6, 13 cases, 1 death.
Spain: Corunna, March 31-April 6, 1 death; Vigo, March 1 1 death.

YELLOW FEVER.

Colombia: Panama, April 8-15, 8 cases.
Hayti: Cape Haytien, March 23-30, 1 case, 1 death.
Mexico: Coatzocoalcos, April 1, prevalent.
Salvador: San Salvador, March 31, 4 cases 3 deaths.

CHOLERA.

China: Hongkong, March 2-9, 1 death.
India: Bombay, March 19-26, 4 deaths; Calcutta, March 16-23, 65 cases; Madras, March 16-22, 1 case.
Straits Settlements: Singapore, Feb. 26-March 2, 5 deaths.

PLAGUE—INSULAR.

Philippines: Manila, March 2-9, 8 deaths.

PLAGUE—FOREIGN.

China: Hongkong, March 2-9, 16 deaths.
India: Bombay, March 19-26, 886 deaths; Calcutta, March 1,040 deaths; Karachi, March 19-26, 239 cases, 192 deaths.
[illegible]s Settlements: Singapore, Feb. 26-March 9, 3 deaths.